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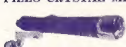
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1C7	3/- 7a £1	7B8	7/6
1D5GT	5/- 5a £1	7C5	5/- 5a £1
1D8	7/6 3a £1	7C7	2/- 12a £1
1H5	5/- 5a £1	7F7	5/- 5a £1
1H6	5/- 5a £1	7W7	2/6 10a £1
1K4	5/- 5a £1	7E6	3/6 7a £1
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1N5	5/- 5a £1	12AT7	7/6 3a £1
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3A4	3/- 7a £1	12S7	5/- 5a £1
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3Q5	5/- 5a £1	12ST7	5/- 5a £1
3R4GY	£1	14A7	3/6 7a £1
5Y3GT	12/6	25L5	5/-
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6A7	10/-	16Z5	5/- 5a £1
6AC7	2/6 10a £1	85T	30/-
6AG5	5/- 5a £1	717A	7/6 3a £1
6AJ5	7/6 3a £1	815	£1
6AG7	12/6	830H	15/-
6AM5 (E201)	10/-	832A	19/6
6AM6 (EF91)	10/-	885	5/-
6B4	10/-	854	5/- 5a £1
6B7	10/-	955	5/- 5a £1
6C4	5/- 5a £1	956	5/- 5a £1
6C5	5/- 5a £1	958A	2/6 10a £1
6C6	5/- 5a £1	9003	7/6 3a £1
6D6	5/- 5a £1	AV11	2/11
6E5	5/- 5a £1	EA50	2/6 10a £1
6G6	7/6 3a £1	EF36	5/- 5a £1
6H6	2/- 12a £1	EF39	5/- 5a £1
6J6	10/-	QE04/10 15/-	
6K7	5/- 5a £1	QV04/7 15/-	
6L7	5/- 5a £1	UL41	7/6 3a £1
6R7	7/6 3a £1	VR53	5/- 5a £1
6T7	7/6 3a £1	VR57/EK2	
6Z7	7/6 3a £1	7/6 3a £1	
6SC7	7/6	VR100	5/- 5a £1
6SF5	7/6 3a £1	VR101	5/- 5a £1
6SF7	7/6 3a £1	VR102	5/- 5a £1
6SG7	12/6	VR103	5/- 5a £1
6SH7	4/- 5a £1	VR136	2/- 12a £1
6SQ7	12/6	VR150	12/6
6SR7	7/6 3a £1	VT52	5/-
		VT127	4/11 5a £1
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## NEW VALVES—Just Arrived!

6K7 metal	5/- each	5 for £1.
6Y6	5/- each	5 for £1.
30, 1/3 each		805, £3 each.
6SN7, 12/6 each		6SL7, 12/6 each.

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otherwise stated.

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coverage, 455 kc. i.f. Tubes: 6BD6  
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Price £62/10/0

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Few only. 45/-, 5/- packing charge.

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English Filter Chokes, 40 mA., 100 ohm  
resistance ... 3/6 each

Carbon Mike Transformers, small, new  
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SCR522 Receivers, less valves ... £2

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Freq. range 200 Kc. to 1750 Kc., 14  
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I.F. freq. 142.5 Kc. Clean condition,  
Priced only £10/0/0

Flexible cable & control box 30/- extra.

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Tech Model TC-2. 230 v.a.c. Checks all  
latest valves. Complete with instruction  
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## COMMAND TRANSMITTERS

3-4 Mc. range	£7
4-3.3 Mc.	£5
7-9 Mc.	£6

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## THE CONTENTS

Bendix Frequency Meter BC221 (SCR211 Aust.)	3
Technical Correspondence:	
SCR211 Freq. Meter	3
A Simple Chassis Bending Tool	4
Modulator Design with OC26	4
Transistors	4
3 Kc. Cut-off Low-Pass Filters	5
1960 "CQ" Contest, Phone Re-	
sults	5
National Field Day Contest 1961	
Results	7
Hints and Kinks:	
A Simple Hash Bypass	7
Prediction Chart, June, '61	8
Ross Hull Memorial V.h.f. Con-	
test 1960-61 Results	9
FSK Trial Period on all Amat-	
eur Bands	9
DX	11
SWL	12
VHF	13
Sideband	15
Correspondence	18
Notes	17

## AMATEUR RADIO

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## EDITORIAL



## CONVENTION TIME

WE are probably a little early to remind members that Convention time is coming around again. It won't be until Easter 1962, but since it is—or at least it will be by Easter 1962—three years since your Federal Council met together to discuss and resolve your problems, it seemed high time to remind you all that it is now time for you to take action on your particular "gripe".

Your Federal Constitution, as it is written today, provides for a specified time in which agenda items can be submitted to the Federal Executive so that they can, in turn, be promulgated to the Divisions of the W.I.A. for submission to you, the member, to discuss and direct your Council in the manner you desire in relation to each agenda item. From now on to December is the time!

Yes siree! From now on to December is the time for you to submit to the Council of your Division any problem of a national nature which you would like to have discussed and resolved by your Federal Council. You—and you only—know what you would like to achieve in our world of Amateur Radio! You may have been "gripping" for the last many months that Amateurs should be able to do this, that or the other thing, but you can't get any sense out of anyone. OK! Now is really your time! You put pen to paper and place your problem before the Council of your Division. Your hard working Council will then give it the round of the Conference table, and if they think it a matter to table before the Federal Council (i.e. a matter deemed other than a local administrative problem), then they will "knock it into shape" as an agenda item and forward it to the

Federal Executive of your Institute for inclusion in the agenda of the 26th Federal Convention of the Wireless Institute of Australia to be held during the year of the British Empire Games in Perth 1962.

Sure! Whilst the majority of members have been voting against the holding of a Convention these past few years, your Federal Council has not stopped working for you and what you want. They have had you represented at the Geneva Conference of the International Telecommunications Union (1959) in defence of your frequencies; they have later still had you represented on the Postmaster-General's Frequency Allocations Review Committee; they have pursued a policy for the protection of your bands for you; they have been constantly reviewing and resolving your problems when they are known.

But as the science progresses and conditions change, more problems arise and you are the one to have intimate contact with some of these changes. Your answer is to have them presented before your Federal Council. The Federal Convention next year in Perth is an ideal time if you act NOW! What do you want from Amateur Radio that you haven't got now? Put it on paper to your Divisional Council and they will put it in due form before your Federal Council. Your Federal Council will decide the issue at the highest level. But it's up to you to put your problem before the Institute constitutionally if you want it heard. It's no good "gripping behind the curtain" if things aren't done the way you want them if you don't do things the right way yourself. Now's your real opportunity! Let your Council have it!

FEDERAL EXECUTIVE



# zener diodes

voltage  
stabilisation  
down to  
exceptionally  
low currents



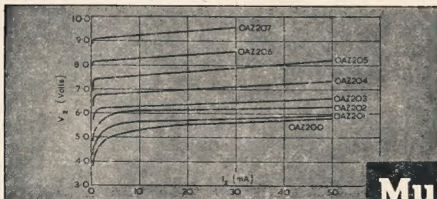
5% Tolerance Range	VOLTAGE (V)		
	Nominal	Min.	Max.
OAZ200	4.7	4.4	5.0
OAZ201	5.1	4.8	5.4
OAZ202	5.6	5.3	6.0
OAZ203	6.2	5.8	6.6
OAZ204	6.8	6.4	7.2
OAZ205	7.5	7.1	7.9
OAZ206	8.2	7.7	8.7
OAZ207	9.1	8.6	9.6

15% Tolerance Range	VOLTAGE (V)		
	Nominal	Min.	Max.
OAZ208	4.2	3.3	5.0
OAZ209	5.1	4.4	6.0
OAZ210	6.2	5.3	7.2
OAZ211	7.5	6.4	8.7
OAZ212	9.1	7.7	10.6
OAZ213	12.2	9.4	15.0

Voltage stabilisation down to exceptionally low currents is provided by Mullard Zener Diodes. This feature is particularly marked in the higher voltage types where stabilisation is provided at currents as low as one milliamp. In all types the dynamic impedance is low and the zener characteristic is very sharp.

Two ranges of these diodes are available. One with approximately  $\pm 5\%$  tolerance voltages, and the other with approximately  $\pm 15\%$  tolerance voltages. In both ranges the change of zener voltage with temperature is only very small, and the operating temperature is from  $-55$  to  $+150^\circ\text{C}$ .



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# BENDIX FREQUENCY METER BC221 (SCR211 AUST.)

R. B. WALLACE,\* VK3UW

THE desired frequency (when the frequency meter is used to calibrate a transmitter), or the observed frequency (when the frequency meter is used to measure an unknown frequency), may often fall between the value listed in the calibration book. To aid in the calibration of the proper dial setting or the frequency corresponding to these intermediate values, the following method (called "interpolation") should be used.

## EXAMPLE A:

The observed dial setting is 2754.2. This setting lies between the two successive book values 2753.3 and 2752.7. The corresponding frequencies for these book values are 195.0 and 194.9 kc. (fundamental) respectively.

**Problem:** To find the unlisted frequency corresponding to a dial setting of 2754.2.

**Solution:** The facts are stated numerically in the following form:—

Dial settings—

$$\text{Diff. } 3.8 \left\{ \begin{array}{l} 2756.3 \\ 2754.2 \\ 2752.7 \end{array} \right\} \text{Diff. } 1.5$$

Corresponding Frequencies (kc.)—

$$\left\{ \begin{array}{l} 195.0 \\ 194.9 \end{array} \right\} \text{Diff. } 0.1 \text{ kc.}$$

F = unknown frequency.

Therefore—

$$(i.) 0.1 \text{ kc.} \div 3.8 \text{ div.} = 0.0277 \text{ kc. per dial division.}$$

$$(ii.) 0.0277 \text{ kc.} \times 1.5 \text{ div.} = 0.0415 \text{ kc. change from lowest calibration frequency to F.}$$

$$(iii.) 194.9 \text{ kc.} + 0.0415 \text{ kc. change} = 194.9415 \text{ kc.} = \text{F.}$$

In the above problem, a change of 3.6 dial divisions (from 2752.7 to 2756.3) causes a change of 0.1 kc. in frequency (from 194.9 to 195.0 kc.). This represents a change of 0.0277 kc. per dial division. (i.) above. Since there are only 1.5 dial divisions between 2752.7 and 2754.2, the difference in frequency between these settings will equal 0.0277 kc.  $\times$  1.5 div., (ii.) above. This difference (0.0415 kc.) is then added to the lower known frequency (194.9 kc.) at the dial setting of 2752.7, (iii.) above, to give the unknown frequency, F.

## EXAMPLE B:

It is desired to set the frequency meter to a frequency of 194.95 kc. This frequency lies between the two successive book values 195.0 and 194.9 kc.

**Problem:** To find the dial setting which corresponds to the frequency 194.95 kc.

**Solution:** The facts are stated numerically in the following form:—

Dial settings—

$$\text{Diff. } 3.8 \left\{ \begin{array}{l} 2756.3 \\ D \\ 2752.7 \end{array} \right\} \text{Diff. } 0.05 \text{ kc.}$$

Corresponding frequencies—

$$\left\{ \begin{array}{l} 195.0 \\ 194.95 \\ 194.9 \end{array} \right\} \text{Diff. } 0.1 \text{ kc.}$$

D = unknown dial setting.

Therefore—

$$(i.) 3.6 \text{ div.} \div 0.1 \text{ kc.} = 36 \text{ dial divisions per kc.}$$

$$(ii.) 36 \text{ div.} \times 0.05 \text{ kc.} = 1.8 \text{ dial divisions—change from lowest dial reading to D.}$$

$$(iii.) 2752.7 + 1.8 = 2754.5, \text{ the dial setting D for a frequency of } 194.95 \text{ kc.}$$

In the above problem, changing the dial setting from 2752.7 to 2756.3 (3.6 dial divisions) causes a change of 0.1 kc. in frequency (from 194.9 kc. to 195.0 kc.). This represents a change of 36 dial divisions per kc., (i.) above. An increase in frequency from 194.9 kc. to 194.95 kc. is a change of 0.05 kc. Since a change of 36 dial divisions causes a change of 0.1 kc. in the frequency, an increase of 0.05 kc. requires a change of 36 div.  $\times$  0.05 equal 1.8 dial divisions, (ii.) above. This increase (1.8 div.) is then added to the dial reading (2752.7) corresponding to the lower known frequency (194.9 kc.) to obtain the dial setting D corresponding to a frequency of 194.95 kc., (iii.) above.

The methods shown are accurate for all frequency columns (including harmonics) in the calibration book.

[The reader is referred to Jan. '61 "A.R." for comments regarding accuracy.—Ed.]

\* 17 Gilbert Street, Wodonga, Vic.

## Technical Correspondence

### SCR211 FREQ. METERS

Editor "A.R.," Dear Sir,

A short note concerning the Editorial postscript to my article on Frequency Meters in the January issue.

So far as I can ascertain, the "official handbook" on SCR211 Meters is War Dept. Technical Manual 33 A1-5-19-1, formerly 40SCR211-5, or Army TM11-300. Anyway, these publications purport to describe SCR211 Frequency Meters models A, B, C, D, E, F, J, K, L, M, N, O, P, Q, R, T, AA, AC, AE, AF, AG, AH, AJ, AK, AL and AN. It is clear from para 3 of this handbook that the likely error of such equipment is 0.34% at 4 Mc.

I am aware that there is a U.S. Navy document N.A.V.A.E.R. 08-3Q-38 and 45 which relates to the LM13 and 14 series frequency meters, and which ascribes magical accuracy to such equipment, as you say 0.01% at 2-20 Mc. and 0.02 on the low band.

It is obvious that the LM and SCR211 series equipments are very similar, particularly in the frequency determining circuitry and in the important

mechanical aspects. Such differences as occur are largely the result of adding modulation, and will not improve (or degrade) accuracy significantly.

The crystal reference in both equipment is virtually identical, having a temp. coefficient of about 1 cycle per degree, and supposedly being set during calibration to within 5 cycles of reference.

The dial mechanism and condenser are identical, BUT the Navy admit to the presence of up to 0.3 division backlash, whilst the Army and Air Force eliminate the effect of this by clockwise rotation to the final setting. Nevertheless, the Naval accuracy figure is better!

The point to stress is that Tech Orders are NOT always infallible, particularly if the statistical background is not known. For example, the U.S.A.F. appreciation of the effect of random inaccuracies in frequency may be more highly developed than that of the "fish-heads". As a result, they MAY publish error figures assessed at the 95% level, against a possible say 50% level for the Navy. This could account for a factor of about 3 between figures published for the SAME equipment!

Frankly, I don't know the basis of calculation for either of the above-

mentioned manuals, but I do know that on my experience, I am not prepared to accept that LM series equipment is significantly different to SCR211 in regard to accuracy, re-set or otherwise.

Whilst the editorial P.S. ascribes a good capability to all SCR211 types, quite clearly the fellow who makes them doesn't!

My plea is simply to ensure that we don't fall into the trap of thinking these portable freq. meters are secondary standards, whose accuracy is 25 c.p.s., or 0.01%. The fact is that the great majority of such boxes, particularly the models on the disposal market, just won't make it!

In such circumstances there is a need for official band edge marker transmissions, particularly as I.T.U. requires all sideband components to be within the allotted channel. To be safe on this, and to recognise frequency measuring errors, can well leave the end of each band unused for say 10 kc. Personally, I am not that timid, but there is little defence if a monitoring station measures, on secondary standard equipment, out-of-band transmissions!

—C. G. Harvey.



# A SIMPLE CHASSIS BENDING TOOL

C. H. L. EDWARDS, G8TL

## Modulator Design with OC26 Transistors

Publication Committee member, VK-3UJ, whose name appeared at the head of the reprint, "Modulator Design with OC26 Transistors," has pointed out that credit for the article should be given to the author, Mr. J. R. Goldthorp, of Mullard Australia Pty. Ltd., who published the original in Mullard "Outlook," Australian edition. Our apologies to Mr. Goldthorp for the error made.

The following corrections to the reprint in May "A.R." should be made: Column 2, line 9, "x 50" should be deleted; column 2 line 13, "— 0.21V" should be inserted; page 7, column 1, lines 3 and 4, "frequency cut-off" does not accurately describe the symbol "f<sub>ae</sub>" which appeared in the original article; page 7, column 1, line 9, "12K ohm" should read "1.2K ohm."

Mr. Roudie has suggested that a 200 to 500  $\mu$ F. condenser be added across the battery supply to the modulator to keep the power supply impedance low under varying conditions.

## REMEMBRANCE DAY CONTEST

12th and 13th AUGUST, 1961

1800 hours to 1759 hours E.A.S.T.

## W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

### PHONE

Call No. r/s	Cer. Cnt.	Call No. r/s	Cer. Cnt.
VK1RU	2 353	VK6KW	4 303
VK1MK	43 248	VK4HR	12 192
VK1AB	49 243	VK4RW	23 184
VK4FJ	31 221	VK1BZ	3 176
VK1WL	14 211	VK1G	80 171
VK1ATN	28 204	VK1EE	10 163

### G.W.

Call No. r/s	Cer. Cnt.	Call No. r/s	Cer. Cnt.
VK1KB	10 220	VK4HR	4 213
VK1CK	26 279	VK1XU	48 213
VK4FJ	35 204	VK1LE	17 212
VK1NC	15 206	VK1G	12 211
VK1PH	15 206	VK1YL	29 203
VK1BZ	6 222	VK1RX	33 193

New Member:

VK1APF 69 133

### Amendments:

VK1SD	23 172	VK1G	55 148
VK1KO	43 168	VK1ARX	65 142
VK1RW	47 162		

### OPEN

Call No. r/s	Cer. Cnt.	Call No. r/s	Cer. Cnt.
VK1ACX	6 230	VK1BZ	4 231
VK4FJ	32 207	VK1HG	2 228
VK1RU	15 205	VK1WL	45 225
VK1MK	14 211	VK1LE	29 223
VK1NC	71 228	VK1XU	61 221
VK4HR	1 233	VK1KW	13 216

New Member:

VK1APF 62 123

### Amendments:

VK1RW	51 206	VK1HL	75 100
-------	--------	-------	--------

pieces of aluminium cut from the corners between the bolts, cutting them to size if necessary and keeping them behind the slots to allow the chassis material to slide in unhindered. On top of them, place another very thin piece of metal (such as tin) and bolt the plates together again. The slot between them will now be the thickness of the aluminium to be bent plus the "ten thou" clearance to allow the material to slide in.



Two views of the tool. Below, closed; above, opened to show the pieces of aluminium and tin placed between the plates.

The metal to be bent is then pushed between the faces of the tool up to the bend line for one of the longer sides. Then, keeping the aluminium flat on the bench, bend upwards with the jig until it is at right angles to the metal. The other long side should next be bent in a similar manner.

To make the last two bends (the short sides) the slots in the tool are used, the previously bent sides being in line

**METALWORK** is a problem for many Amateurs, particularly chassis making. The simple tool shown in the photograph is itself easy to make and provides a solution to most of the difficulties encountered in producing chassis of different sizes at home.

The tool consists of two bright drawn mild steel plates slotted where required and held together by three bolts with wing nuts for quick release. It can be made any size to suit the particular needs of the user. The example shown in the photograph is made of  $\frac{1}{2}$ " steel plate and measures 10" long by 4" wide.

It is essential that the inside surfaces of the two plates should be perfectly flat, so one side of each should be turned in a lathe or ground. Suitable  $\frac{1}{8}$ " plate, ideal for the purpose can be obtained machined flat on all sides but it is very expensive. Bright drawn mild steel or ordinary hot rolled blue scale steel is the easiest to procure and much cheaper but may need grinding on one side.

## CONSTRUCTION

First set out and drill the three bolt holes (Fig. 1), which should be about  $2\frac{1}{2}$ " from the front edge and  $2\frac{1}{2}$ " from one side to allow for bending chassis up to 2 in. deep. When the holes have been opened, bolt both plates together and mark out slots to the width of the chassis to be made. The distance between the right-hand edge and a slot determines the width of the chassis, hence odd sizes cannot be made unless the jig is specially slotted to take them.

Next cut the slots to a depth of  $2\frac{1}{2}$ " with a sharp hacksaw or machine, making them about  $3/32$ " wide so that they easily take 16 gauge aluminium (the maximum which can be bent with the tool).

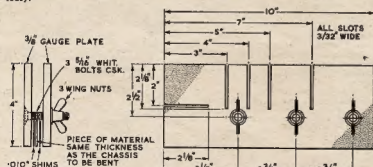


Fig. 1—Layout of the chassis bending tool.

## MAKING A CHASSIS

To bend a chassis, the following procedure should be adopted. Mark out the width and length of the chassis to be made plus twice its depth. Cut out the four corners and put the pieces aside for use later. Next, open up the jig by removing the wing nuts and sliding out the bolts. Put three of the

with one edge of the tool and an appropriate slot. If care is taken, a neatly bent chassis will result.

The same type of tool can be made from wood if desired, though it will obviously not last so long as the bending edges will wear more quickly. However, they could be planed down from time to time. It is advisable to use plywood, eleven ply  $\frac{1}{8}$ " thick being suitable.

# 3 Kc. CUT-OFF LOW-PASS FILTERS\*

R. G. ROPER, VK5PU

THE purpose of this article is to present a few representative audio low-pass filter circuits; anyone desirous of designing their own filters to particular specifications is referred to the section on filters in the A.R.R.L. Handbook.

The restricting of transmitted information to a minimum bandwidth is becoming more and more of a necessity on today's crowded bands. By using a filter with a cut-off frequency of 3 Kc. very little voice individuality is lost, but the spectrum occupied by the transmission is reduced to about one-third that occupied by a rig with a "wide open" modulator. Audio filtering is also a "must" in s.s.b. phasing-type rigs. Audio phase-shift networks of the type normally used by Amateurs produce the desired output phase relationships only over a limited audio range. If the audio input to such phase-shift networks contains frequencies outside the 300 cycles to 3 Kc. limits, splatter and insufficient suppression of the unwanted sideband will result.

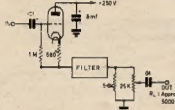


Fig. 1—Suitable circuit for driving any of the filters mentioned. Max. input equals 5 volts peak to peak.

If low-level clipping is used to increase the average audio content of a signal, a low-pass filter after the clipper is essential to attenuate the higher order harmonics generated in the clipping stage.

Attenuation of low frequencies is easily accomplished by the use of low values of coupling capacitors in the early audio stages, or by the use of a 150K load resistor for a crystal microphone (the latter being a dodge used by Phil Williams in his s.s.b. rig).

Sufficiently sharp top cut is not so easily achieved, however, and this has proved a bugbear in the past. Most Amateurs have access to an RC bridge which will enable them to select 2% capacitors, but to wind inductances to the required tolerance is impossible without suitable test gear, and a time consuming process even with such instruments available.

The production by two manufacturers of suitable ferroxcube pot cores has removed the guesswork from inductance winding for the Amateur, the only prerequisite for success being the ability to count turns.

Limited stocks are available of Mulard Ferroxcube Pot Cores type LA1,

price 14/6 including sales tax. These pot cores are machined to optical tolerances, each core having individually adjusted gap so that the turns per millihenry can be given to an accuracy of 1%.

The formula for calculation of the number of turns (n) required to produce an inductance of L millihenries on an LA1 pot core is

$$n = 52 \sqrt{L}$$

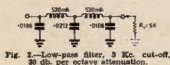


Fig. 2—Low-pass filter, 3 Kc. cut-off, 30 db. per octave attenuation.

In the filter circuits following, certain enamelled wire gauges have been specified. Larger diameter wire, or silk or cotton covered wire of the specified gauge cannot be used, since the bobbins will not then take sufficient turns to produce the required inductance. Lighter gauges than specified may be used, but Q values will suffer because of the increased resistance of the windings. The available winding area is 0.05 sq. in.

Because of the tolerances involved in grinding, the outsides of the cores are marked so that the ground faces can be matched when the cores are re-assembled.

Attention is drawn to the fact that all the filters described match to 5K loads. The required inductance values for constant K section filters are directly proportional to the load resistance; larger inductances mean more turns, and hence smaller wire with higher resistance for a given winding area. This results in lower overall Q. Distributed capacitance also play a more important part at higher impedances.

Because of core saturation, these pot cores can only be used at low levels. As a filter is progressively overdriven, its cut-off frequency tends to rise, and the filter itself produces clipping and higher order harmonics. In the filters described, up to 50 volts peak to peak can be handled with negligible distortion. Note that the driving circuit shown is only capable of handling up to 5v. peak to peak.

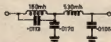


Fig. 3—Low-pass filter, 3 Kc. cut-off, m-derived end section. Rejection notch at 3750 cycles.

The all-enclosing nature of the pot core ensures that negligible external field is caused by the inductance, and effectively shields against hum pick-up. They may be stacked or placed as layout decrees, without any regard to possible coupling. (Mounting of filters on plate transformers may be tempting fate a little too much. However, reasonable separation from power transform-

ers is a necessity for low level audio stages anyway; if hum does not affect the associated circuitry, it will not be picked up by the pot cores.)

A suitable circuit for driving any of the filters given is shown in Fig. 1.

The performance of the two filters (Figs. 2 and 3) is comparable, with Fig. 3 having a sharper cut-off. However, Fig. 3 filter is more prone to ringing if not preceded by sufficient bass attenuation.

Capacitance tolerances in Figs. 2 and 3 are  $\pm 5\%$  of stated value (all values given are in microfarads). In Fig. 4 the tolerance is  $\pm 2\%$ . A Philscope will give the required 2% accuracy. At these impedances and frequencies, reputable brand paper capacitors are satisfactory; micas show greater stability with temperature and age.

Two "ultimate" low-pass filters (Fig. 4) have been built using a mixture of mica and paper capacitors paralleled up to give the right values, and these have been operating satisfactorily 24 hours a day for six months.

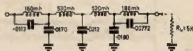


Fig. 4—"Ultimate" low-pass filter, 3 Kc. cut-off. Rejection notches at 3750, 4800 cycles. Feedback is flat to 3 Kc. falls to -34 db. at 3.7 Kc., and attenuation remains greater than this at all higher frequencies.

## INDUCTANCE TABLE

This table is compiled for the use of LA1 type pot cores, using the formula  $n = 52 \sqrt{L}$  mentioned earlier:—

Inductance Milli- henries	n (No. of Turns)	Enamel est. B. & S. S.W.G.	Near- est
160	655	34	33
166	712	35	39
530	1196	38	42

## 1960 "CQ" CONTEST PHONE RESULTS

All Band—Single Operator	
VQ4DT	558,285 pts.
Multi-Operator—Single Transmitter	
4X4GB	729,135 pts.
Multi-Operator—Multi-Transmitter	
K2GL	383,112 pts.
Single Band Leaders	
28 Mc. LUIDAB	126,808 pts.
21 Mc. VQ4RF	214,389 pts.
14 Mc. CX2CB	333,185 pts.
7 Mc. Y09CN	3,367 pts.

## Single Operator—Australia

Number groups after call letters denote the following: Band, final score, number of QSOs, zones and countries.	
VK3TL	14 1,650 30 12 13
VK4DD	14 24,444 113 32 52
VK3AB	14 24,691 126 26 46
VK6RU	A 61,525 206 40 67
VK7WA	A 3,619 42 21 26

\*Reprinted from "The South Australian Wireless Institute Journal," Jan. '61.

# POWER TRANSFORMERS AND CHOKES

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## POWER TRANSFORMERS

**TYPE PT1870.**—Primary: 230 or 240 volts to high, medium or low taps. (Overwound primary.) Suitable for switching with non-shortening contacts.

Secondary: 1: 850, 750 or 600 volts per side of c.t., depending on primary tap selected. D.C. load current 200 mA. continuous or 250 mA. part intermittent with choke input filter.

Secondary: 2: 4.5 to 6 volts at 0.3 amp. for pilot lamp. For use with 5R4GY rectifier, choke input filter.

**TYPE PT1400.**—Primary: 200, 220, 230, 240 volts.

Secondary: 565, 500, 425 volts per side of c.t., 250 mA. condenser input filter.

Filaments: 2 x 6.3v. (3a.), 2 x 2.5v. (3a.), 5v. (3a.). Horizontal mounting.

**TYPE PT1371.**—Primary: 200, 220, 230, 240 volts.

Secondary: 1000, 850, 750, 600, 500 volts per side of c.t. 300-400 mA. choke input filter.

**TYPE PT1305.**—Primary: 200, 220, 230, 240 volts.

Secondary: 2.5v. c.t. 10a. for 2 x 886/A fls. Max.: D.C. wkg. 3000 volts.

**TYPE PT1516.**—5 v. at 3 a., 1000 v. D.C. working. For use with h.t. power supply and high-level negative peak clipper filament voltage.

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**TYPE Z3044.**—12 Henrys 200 mA. D.C. resistance = 165 ohms.

**TYPE Z3045.**—10 Henrys 250 mA. D.C. resistance = 130 ohms.

**TYPE Z3046.**—10 Henrys 300 mA. D.C. resistance = 90 ohms.

**TYPE Z3047.**—5-15 Henrys 250-50 mA. D.C. resistance = 70 ohms.

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" 66 MA	£11/3/6
" 66 MD	£9/3/0
" 67 MA	£11/3/6
" 67 MD	£9/3/0

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# NATIONAL FIELD DAY CONTEST 1961 RESULTS

**F**ORTUNE smiled on the National Field Day Contest this year in so far as the weather was concerned as it was much better than it was last year and in consequence portable operation was much more pleasant. It was pleasing to see the increase in the number of multiple operator stations working portable in the Contest. Some of these were very elaborate and must have required very careful planning to cover every eventuality in the field. These stations in general made high scores and judging from the logs, there was also associated a high measure of fun and experience.

The highest score in Section A (single operator, phone) was made by VK7TT with 467 points, followed by VK2AAH with 382 points. Section B (single operator, c.w.) was poorly contested and in this section the score was made by VK5XK with 433 points. The highest score in Section C (multiple operator, open) was made by the VK5LZ group with 1,550 points and closely followed by the VK3APC group with 1,510 points. VK3AKN gained highest score in Section D with 690 points from VK-2YN who gained 475 points. D. Grantley gained the highest score in the receiving section with Miss Martin in second place.

A vast array of equipment was assembled in the field during the weekend with the multiple operator stations combining the resources of a number of operators. VK2ARZ and VK2ABZ used a v.f.o. with a 1628 p.p. VK3APC but nothing to chance and had duplicate stations available for most bands — two home brew tx working on 3.5 and 14 Mc., three Type 3 Mk. II Transceivers for 3.5 and 7 Mc., and another home-brew tx for 144 Mc. The receivers included a BC342, a Collins and an Eddystone. VK3ADW at Mt. Blackwood used a 122 as the basis of the station and worked on five bands with five aeriels. VK3CS, with six operators, worked on five bands. VK3ASC, with five operators, used home built tx's on 7 and 50 Mc., a Panda Cub on 3.5 and 14 Mc., and a BC925A on 144 Mc. Receivers included an HRO, ARS and an A.W.A. Communications rx. Long wire aeriels were used on 3.5 and 14 Mc. a Windom on 7 Mc., Halo on 50 Mc. and a three element beam on 144 Mc.

VK4CS also used a Windom on 7 Mc. and a two element beam on 144 Mc. Receiver was an AR88D with a car radio and converter also. Three groups of operators worked at VK5LZ at Blacktop Hill. Group one worked on 7, 21 and 28 Mc., group two on 3.5 and 14 Mc., and group three on 50 and 288 Mc. Receivers included an Eddystone 750, CR100, a Super-regen, and a converter combination on 50 and 288 Mc. Aerials included dipoles on 3.5, 7 and 14 Mc. and Yagis on 50 and 288 Mc. VK6VF, with five operators, used a Collins and a Celco tx. The receiver line-up included a Collins 75A4, a Collins 75A1, a HRO, and a BC348. All this was housed in a caravan and a tent. VK7JB and two other operators used a 122 set and a BC342N receiver on 3.5, 7 and 14 Mc. bands.

In the single operator sections, the equipment used was much simpler. VK2AAH used a modified BC358A tx with an input of 22 watts from a transistorised DC/DC converter. Rx was a BC453 with a crystal locked converter. He used an 8 ft. centre loaded whip mounted on the car as aerial. VK3HE used a Type A Mk. III Transceiver with 4-5 watts input to a 130 ft. antenna. VK4OL worked on 7 Mc. only with 3.5 watts input. VKAQA used modified Command and No. 19 set on 3.5, 7 and 14 Mc. VK7TT used a No. 22 transceiver on 3.5 and 7 Mc. In the c.w. section, VK2ASZ went camping with a Type 3 Mk. II set as transmitter and a BC342 rx. Both VK5XK and VK7LJ used Type 3 Mk. II Transceivers.

Federal Contest Committee, W.I.A.

## AWARD WINNERS

Section A (Portable, Phone)	
VK2AAH—H. F. Burfoot	382 pts.
VK3HE—H. G. Hodge	344 "
VK4OL—A. J. Hansen	211 "
VK5AQ—T. F. Robbins	359 "
VK7TT—T. J. Tonga	467 "
Section B (Portable, C.w.)	
VK2ASZ—R. L. Lear	248 pts.
VK5XK—A. J. Hewitt	433 "
VK7LJ—L. R. Jensen	238 "

Section C (Portable, Multiple Ops.)	
VK2ARZ—M. R. Bruce	602 pts.
VK3APC—Moorabbin and District Radio Club	1510 "
VK4CS—Northern Command Signals Radio Club	262 "
VK5LZ—Elizabeth Amateur Radio Club	1550 "
VK6VF—V.h.f. Group of W.A.	878 "
VK7JB—J. Batchler	763 "

Section D (Fixed Stations)	
VK2YN—J. R. Watt-Bright	475 pts.
VK3AKN—G. G. Baugh	690 "
VK5JT—J. Kilgariff	150 "
VK7KS—C. K. Spiegel	435 "

Section E (Receiving)	
L2022—D. M. Grantley	560 pts.
L3074—J. M. Hillard	305 "
VK4-SWL—C. H. Thorpe	300 "
VK5-SWL—Miss O. J. Martin	360 "
L7007—M. L. Jenner	300 "

## INDIVIDUAL SCORES

Section A					
VK2AAH	382	pts.	VK3AUC	87	pts.
2ASZ	341	"	30H	61	"
2RJ	185	"	4OL	211	"
3HE	344	"	4UX	205	"
3AHN	237	"	4HZ	67	"
3XN	166	"	5AQ	359	"
3ZCG	150	"	5GG	125	"
3ARL	144	"	7TT	467	"
3JO	134	"	7JO	118	"

Section B					
VK2ASZ	248	pts.	VK5XK	433	pts.
2AAH	47	"	7LJ	238	"
3AKN	chk.	log	7CH	203	"

Section C		
VK2ARZ and VK2ABZ	602 pts.	
VK3APC, Moorabbin & District Radio Club (operators: VKs 3LC, 3JI, 3AFQ, 3ACS, 3ZIP, assisted on Sat. by 3KE,		

3APD, 3NZ, 3AWO, and on Sun. by 3NQ, 3JE. Junior helps: J. Chandler, J. Antennella, G. Comber)	1510 pts.
VK3ADW, VKs 3YQ, 3AEL, 3ZEO and 3ZCZ	774 pts.
VK3CS, 3ATY, 3ZAI, 3ADL, 3AZR, 3AKT and 3AHJ (Sat. only)	721 pts.
VK3ASL, 3OM, 3UJ, 3RN, 3ARZ, and 3ZFO	693 pts.
VK4CS, Northern Command Signals Amateur Radio Club (operators: VKs 4UW, 4ZBQ, 4ZCI)	262 pts.
VK5LZ, Elizabeth Amateur Radio Club (operators: VKs 5HB, 5BP, 5QX, 5NO, 5FY, 5TM, 5NG, 5ZCH, assisted by T. Strong, L. Catford, P. Field)	1550 pts.
VK6VF, V.h.f. Group of W.A. (operators: VKs 6ZCF, 6ZDS, 6RU, 6BU, 6HK)	878 pts.
VK7JB, VK7ES, VK7CT	763 pts.

## Section D

VK2YN	475 pts.	VK3XK	150 pts.
2GJ	65 "	3XQ	105 "
3AKN	690 "	3OH	70 "
3AUL	400 "	3ALD	30 "
3GE	380 "	3JT	150 "
3KC	355 "	3ZBL	60 "
3AUK	350 "	5DF	55 "
3LW	340 "	7KS	435 "
3QV	250 "	7WI	45 "
3PF	175 "		

## Section E

L2022—D. M. Grantley	560 pts.
L2033—D. W. Shephard	345 "
L3074—J. M. Hillard	305 "
L3099—J. Jobson	200 "
L3042—E. W. Trebilcock	145 "
VK4-SWL—C. H. Thorpe	300 "
VK5-SWL—Miss O. J. Martin	360 "
L5031—C. M. Hutchesson	220 "
L7007—M. L. Jenner	300 "

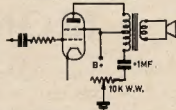
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A SIMPLE HASH BYPASS



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—L. W. P. Smith, VK9AWS.

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# ROSS HULL MEMORIAL V.H.F. CONTEST 1960-61 RESULTS

THE Federal Contest Committee has much pleasure in announcing the results of the last Ross Hull Memorial V.H.f. Contest which was held in December 1960 and January 1961. Although conditions on the lower frequencies were disappointing and there were fewer overseas contacts, there was increased support from VK Amateurs. No logs were received from New Zealand and the only overseas log came from JA1FAP for one contact only. As in other contests, it was noticed that many who took part in the contest failed to submit logs.

The poor support for Section A suggests that this section could possibly be combined with Section B and made an open section in which both phone and c.w. contacts with a given station on the band could be counted. VK4 stations favoured Section B, while strong support for Section C came from VK3. Congratulations go to the Trophy Winner, VK5GG, who gained a total of 969 points, of which 905 were gained in Section B. This was the highest score in any one section of the contest. He was followed by VK3ARZ with 840 points, all gained in Section C. This was a particularly fine effort when it is remembered that most of his contacts were worth one point only. Two stations only entered for all three transmitting sections, and of these, VK3CS easily won the award from VK7LZ. Although the receiving section was relatively poorly supported, the logs submitted were of a high standard.

Special commendation also goes to VK3ARZ and VK5GG whose large logs were particularly well set out and very neatly compiled. These were in contrast to a few logs which were made difficult to check by the jumbling up of the sections and sequence numbers. One log, either by accident or misreading the rules, included many contacts twice. In regard to the scoring, the bonus of 20 points per new call area was not intended to be applied to Section C although the printing of the scoring table for Section C gave that for Section B in "Amateur Radio" made it appear differently.

Highlights in the contest were the 576 Mc. contacts between VK2ZAH and VK2ZCF and between VK8ZAA and VK6ZDS. VK5GG made 32 contacts on 288 Mc. VK3ZER claimed a record for working VK5AW on 288 Mc. He also heard VK7LZ on the same band. Some contestants suggested a distance basis for scoring contacts on 144 Mc. and higher frequencies. While this might be a good way to score these contacts, it would be most difficult for the Committee to check. However, the Committee keenly appreciates the very helpful suggestions made by competitors and regrets its inability to reply to them individually.

Federal Contest Committee, W.I.A.

## TROPHY WINNER

VK5GG—G. A. Gormly 969 pts.

## AWARD WINNERS

Section A (C.w. Transmitting, 50-54

and 56-60 Mc. Bands)

VK3CS—J. MacMillan 53 pts.

VK4AP—J. Purdon 25 "

VK5ZDI—B. J. Burns 122 "

VK7LZ—C. P. Wright 27 "

Section B (Phone Transmitting, 50-54

and 56-60 Mc. Bands)

VK2ZLP—D. I. Price 623 pts.

VK3ZEA—G. W. Small 418 "

VK4ZBZ—R. M. Feenaghty 878 "

VK5GG—G. A. Gormly 905 "

VK6ZCB—K. C. Bicknell 447 "

VK7LZ—C. P. Wright 199 "

VK3ZFG—K. M. Cocking 135 "

VK9XK—S. R. Coleston 234 "

JA1FAP—Seija Pueta 30 "

Section C (Phone Transmitting, 144 Mc.

and Higher Bands)

VK2ZCF—R. C. Norman 89 pts.

VK3ARZ—W. Roper 840 "

VK5AW—D. A. Carthew 334 "

VK6ZDS—R. K. Graham 19 "

VK7ZAS—G. C. D'Emden 39 "

Section D (Receiving, Open, all Bands

from 50 Mc. and Higher)

L2211—R. C. Abernethy 343 pts.

L3055—M. R. Cox 259 "

VK4-SWL—C. H. Thorpe 355 "

Highest Aggregate Score in

Section A, B and C

VK3CS—I. MacMillan 525 pts.

## INDIVIDUAL SCORES

### Section A

VK3CS 53 pts. VK5ZDI 122 pts.

4PU 25 " 7LZ 27 "

### Section B

VK2ZLP 423 pts. VK4ZFA 158 pts.

2ABR 335 " 4ZEA 119 "

22GM 304 " 4ZDG 118 "

2ZCF 286 " 4ZRV 95 "

2ZDA 238 " 5GG 905 "

2ZFS 187 " 5ZFM 495 "

2ZDP 154 " 5ZBL 900 "

2ZDM 108 " 5ZCJ 173 "

3ZEA 518 " 5ZCQ 161 "

3ZKJ 310 " 5ZBI 101 "

3ZFM 277 " 7ZAQ/5 76 "

3CS 229 " 6ZCB/6 447 "

3ZCQ 171 " 6ZAA 355 "

3ZCZ 149 " 6ZCD 200 "

3NN 147 " 7LZ 199 "

3ZBL 148 " 7ZAC 177 "

3QV 129 " 7ZAQ 152 "

3OF 83 " 7ZAO 120 "

4ZBZ 678 " 7ZAX 111 "

4ZAZ 562 " 7ZAJ 104 "

4NG 419 " 3ZFG/8 135 "

4ER 215 " 9XK 234 "

4PU 213 " JA1FAP 30 "

4RW 148 "

### Section C

VK2ZCF 89 pts. 3CS 233 "

2ZGM 25 " 3ZCZ 315 "

2ZD 24 " 4ZEA 143 "

2ZDP 15 " 3ZBL 130 "

3ARZ 840 " 3QV 126 "

3ER 294 " 3ABP 103 "

3ZCG 263 " 3ABK 84 "

## Section C (Continued)

3AFW 80 " 5ZBL 21 "

3NN 75 " 5ZDI 18 "

3NB 53 " 5ZCJ 14 "

3ZGL 50 " 6ZDS 19 "

3ZDA 48 " 6ZAA 13 "

VK3ZFM 44 " 7ZAS 80 "

3AJJ 38 " 7ZAU 58 "

3ZC 34 " 7LZ 51 "

3ZJM 38 " 7TF 47 "

5AW 384 " 7ZAO 10 "

5GG 84 " 7ZAQ 10 "

5ZGB 30 "

## Section D

L2211—R. C. Abernethy 343 pts.

L3074/2—J. M. Hillard 50 "

L3074—M. R. Cox 259 "

L3074—J. M. Hillard 247 "

L3085—J. D. Thomas 148 "

VK4-SWL—C. H. Thorpe 355 "

## FSK TRIAL PERIOD ON ALL AMATEUR BANDS

Permission has been granted by the Postmaster-General Department for the Amateur Service in Australia to use Class F1 emission (Frequency Shift Keying) with a maximum frequency shift of 850 c.p.s. on all licensed Amateur bands for a trial period up to March 31, 1963, when the position will be reviewed in the light of conditions then obtaining.

The Department does not propose to notify individual Amateurs, so all readers are asked to pass this information on to those who may be interested in Class F1 transmission. This information will also be transmitted from W.I.A. stations for the information of all Australian Amateurs.

In connection with the use of Class F1 emission, Amateurs are reminded that they must abide by Paragraphs 135 and 136 of the Handbook for Operators of Amateur Wireless Stations relating to transmitting call signs of the calling and called stations which must be transmitted at least once in every five minutes and clearly indicate the nationality prefix letters—in the case of Australia, "VK".

When Regulations 135 and 136 are applied in the case of Class F1 emission it will be necessary that the call sign be transmitted by either hand speed Morse code (Class A1 emission) or radiotelephony signals.

It is not anticipated at this stage that many will have the necessary equipment for FSK transmissions although it is known that some Amateurs will be participating in FSK experimentation. Reports will be welcomed by the Federal Council of the W.I.A. concerning this mode of transmission and its effect (if any) on the normal use of the Amateur Service bands.

## VK-ZL CONTEST

PHONE: 30th SEPT. and 1st OCT.

C.W.: 7th OCT. and 8th OCT.

1000 hrs. GMT to 1000 hrs. GMT

*without change  
there can be no progress!*

L M Ericsson Telephone Co. Pty. Ltd., Melbourne, the Australian subsidiary of the world-wide L M Ericsson Telephone Concern, with headquarters in Stockholm, Sweden, pioneers in the development and manufacture of telecommunication and allied equipment, is now the major shareholder in this Company, which was formerly Trimax Transformers Proprietary Limited.

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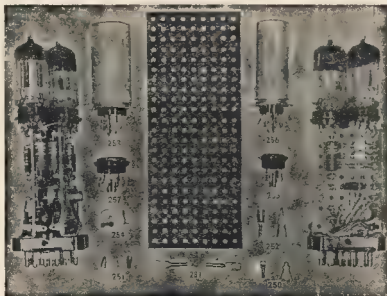


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#### A BAME POINT OF VIEW ON SW/LING

"Dear a.w.l., your reports are valued and appreciated by most Hams who turn their beams DX-wise. Having been an a.w.l. myself, I appreciate your pleasure on receiving a QSL card and I will confirm every worthwhile report of my transmissions.

"Amateurs really like to know that they have been heard, but when a a.w.l. report is received, adding listening in detail, and only containing particulars that could easily have been taken from the station he was working—how wonderful! So lads, put him out of his misery, give as much detail as possible in particular, topics of conversation that are not likely to be repeated by the station he was working.

"Wherever possible, address him with his name, 'VK3KWC, Dear Ewan', seems much more personal than the blunt call sign alone.

Give thought to the presentation of your report. A view-type card or characteristically particularly depicting your country or area is sure to find favor and make like and love its way to the Ham shack wall, reserved for the Amateur's most prized QSLs. This, of course, is not absolutely essential as several of my most prized reports are well-written, interesting and informative letters. Unlike shoreward broadcast listening, the Amateur engages in two-way communication and so is more likely to have had direct reports from fellow Hams, in your country or area; so the most interesting and informative you make your reports the better are your chances of getting a QSL in return. Comparison with other stations, particularly those from the same or adjoining call areas, based conditions of the time, and sure to be well-received, the particular Amateur without making contact, are items of direct interest that will provide details of your equipment are of natural interest.

"But don't forget yourself. Are you young? Middle-aged? Or elderly? Your hobbies, profession, occupation, and even your age, may be an Amateur or prefer to remain an a.w.l. These and many other personal items are of great interest to me and I'm sure to many other Amateurs. In short, follow the lead the Amateur some compelling reason to confirm your report, this gives you great scope for your ingenuity and includes the greatest of pleasure must come from receiving a QSL card from the hard-to-get Amateur who told that after doing all things possible so many times you down so he it will be a great perfection, but never let that deter you from striving to better your averages. It is frustrating that many more have the reward of your effort, patience and courtesy. Yours fraternally, Ewan VK3KWC."

I thought it a good idea to let all VK a.w.l. see the above letter that is enclosed with a card to a.w.l. outside of my country. It has shown me some very bad QSL cards, that he has received from a.w.l. Mind you, the card was fine, but it was that was on it that prompted him to write the above letter. In my book of rules they were absolutely worthless, so the good bloke that Ewan is, he wrote the letter and sure to be a great reward he receives, that he thinks warrants one. I only hope that none of the VK a.w.l.s. get one. Thank you, Ewan, for letting me make this letter available to my fellow a.w.l.s.

#### VICTORIA

On Friday, 28th April, 33 members of the CWA club met for a very busy evening. It was quite a surprise and pleasing to see so many in attendance. We had quite a long meeting, everything was discussed in keep the club in the best of health. As a result, we all agree, that the W.I.A. should be omitted from the VK listeners number and replace it with VK3's and VK4's. This will require all Divisional Secretaries to put this to the vote at their monthly meeting and advise me of their decision.

Many of the listeners contest will be run from this Division and it will interest all a.w.l. whether you listen to the Amateur bands or the a.w. b.c. bands. So please all VK a.w.l. enter this contest—see next month's A.R.

I wonder if any Amateur would like to donate to the VK3 Group a receiver for use at the rooms, in 478 Victoria Parade? It will be used to show the up-and-coming Amateurs of tomorrow how to operate a receiver and also to give them some interest when at the meetings. Are there any offers?

#### MOON AUSTRALIA

Since Al Reinher, VK3ZCR, went to Mt. Gambler, he has gradually converted the local group to the v.h.f. bands. Colin is going to conduct a 2 mhz. rough terrain for the Feb. 1968 R.T.R. and use it ahead of a seven tube receiver Gary has at last got his receiver going on 20 mhz and by his log book of DX stations, he has a very happy list. Colin cannot listen to the good bands, 10 and 15 mhz. He will build the four-tube converter from R.T.T. It is hoped to start A.O.C.P. classes soon and then later will be 32CR. SWI has asked them for news to be used on the broadcast of a Sunday morning, so that the Adelaide lads can keep in touch with the Blues Larks boys.

#### TRIMAVIS

At long last some news from the Apple Isle. I think you lads must hibernate for a while; no wonder my XYL is always asleep. Al Mike apologises for not writing. They are accepted, Mike, you haven't any news if's no use writing is it?

Quite a lot has happened since he last wrote. Mike is now on the air as VK3ZAV (another a.w.l. name) and has had some results on 6 mhz from his location of New Norfolk and longest distance so far is 27 miles over water, but no one has heard of the way. He is running on 10 mhz (bored to it) and a 4 element beam to a three-tube tunable converter. On 3 mhz all signs of receiving, but no one has heard of the way. He is running on 10 mhz (bored to it) and a 4 element beam to a three-tube tunable converter. On 3 mhz all signs of receiving, but no one has heard of the way. He is running on 10 mhz (bored to it) and a 4 element beam to a three-tube tunable converter. On 3 mhz all signs of receiving, but no one has heard of the way.

At their March meeting there was a special "do" to gain new members. He wrote to several of the schools and they agreed to display of receivers, converters, crows, plus Mike's 6 mhz gear. They worked TMY, 10 miles away, Miller and, and a few more. The result of all that was that it was done new members.

By now the senior members of the VK3 Group would be at the meetings, discussing and decide on a programme for the next few months. Hope you have come up with something good, especially. Beards, if he capable—what with his sprains, aches and tired wrist, but I hope it's better by this Ted. All the very best to the Apple lads boys and don't be so long in writing next time.

#### CORRESPONDENCE

Thank you to the boys who have written to me in the past month. They have come from Eric Treblecock, Don Granley, David Jackson, Peter Drew, Harry Major, Dick McKell, John Walker, Howard Harvey, Fred Mackiewicz and Sven SM3-3194, of Sweden. Peter Drew is now WIA-L0021. He writes that he has just received his listener's No. and since that letter has heard several new countries, plus one more confirmed. As the time his listening is limited because of school exams. But in the May holidays he's going to listen all day and every day.

Richard McKell, of VK3 land, is a mate of John Walker's and at the moment is in hospital—hope you'll soon be out Dick. He wants to know what would be the best antenna that he could use for the new wave. As he answered Dick, a whip is the best that I know of. Anyhow let me know what you eventually do, please write.

John Walker wrote to Gerry Albeck for a a.w.l. number, but as yet no number. Come now, Gerry, if a member wants a number, let him have it as soon as you can.

Howard Harvey, congrats on your passing your A.O.C.P. (both parts) with the best. As he's just completed re-building his shack, due to this, a.w.l.ing is lacking. Yes Howard, you can miss a lot of DX. Howard, if Howard is a Z call now, he's not going to give up listening.

Fred Mackiewicz is a new member of the VK3 Group and tells me he had a go at QSLing a DX station a couple of months ago and received a card from HANK. Fred uses the Edwidge (the "miserable") and a 21 mhz. His antenna are a long wire and a Windom. Later he intends to put up a fixed ZL beam. Harry Major—at last I've met the honourable gentleman. He is now a member of the VK3 Group. L3102 and he was at the last meeting of the Group. Harry told me he's had quite a lot of help since I wrote about him a couple of months ago. Don Granley

was one, thanks Don. Harry is doing an f.b. job of helping young lads at the Collingwood Technical School. Harry built a s.w. tuner circuit up that Don sent him. He built it once the first time, but he's now got a regen. detector with plug in coils. He has modified the set slightly and with two audio stages it is super.

Don Granley. He's doing well on the hearing aid I heard that last night a W said that his hearing aid was a so and so! with 220 hrd., 72 con. and 54 hrd. on a.s.b. this year the hrd., 111 countries in 34 zones and 30 on a.s.b.

Nelson Richardson, ex Albany a.w.l. and place getter in the last R.D., is now in Melbourne with the P.M.C.I. Hope you can get along and see us Milton at the meetings.

At Don's QTH his antenna is now up to 40 ft. but is still using the long wire, pending completion of his feeders for the end-tied Zepp. The tube line-up in his ART and Marconi (type unknown) is again altered with good results. He uses the Marconi to search for them and then to the ART for selected listening.

Eric Treblecock. I always like reading his letters, there is so much in them. He writes not only on DXing QSL, but where and what he does. Eric is a great sportsman, especially football, and he is on-erived too. I am glad we barrack for the same team. Eric is now doing a grand job as inwards QSL manager for VK3.

He's had cards this year from 75 countries, 30 zones. That indicates that he's more than up to his normal received QSLs for this time of the year. Eric says the better quality rather than the quantity of the QSLs is reflected in those figures. He always thinks that the number of cards does not really matter at all. It is the countries and zones of origin that count most. So in his old age, he seems to be judging things a bit better and so he's better judged. He's been in the States to mid April, Eric has forwarded 240 reports and cards, a little less than average, but still a pretty high figure. Eric's DXing is reported on the DX pad.

I am sorry I can't report on anybody else as space is running out. Please bear with me, I'll fill all your interesting news in somehow soon.

Now to the ladder, and I believe this 1 becoming very popular. I've moved down once again, but just wait—I've sent out 35 reports so far this year.

#### ST LADDER

	Com- m. Hrd.	Con. No. of Cards
L3043 Eric Treblecock	85	277 40 4053
VK4 C Thorpe	88	137 84
L3023 D. Granley	94	321 35 428
L3074 M. Hillard	97	186 84 150
VK4 A Westcott	97	186 84 150
L3053 M. Cox	90	108 19 84
L3045 I. Thomas	14	130 13 32
L3042 T. Heywood	19	108 19 84
L3031 C. Abernathy	19	51 15 55
L3033 C. Hutchesson	7	86 6 18
L3028 D. Granley	4	153 10
	11	156 9 18

That's it! Lads till next month. 73, best DX. Maurice, L3055. ★

#### T.V. OPERATOR'S CERTIFICATE OF PROFICIENCY

##### Alteration of Date of Examination

The Australian Broadcasting Control Board have announced that commencing in June, 1961, the examination for the Television Operator's Certificate of Proficiency will be conducted on the first Tuesday of June and December each year instead of the second Tuesday, as formerly.

The closing date for applications will be the eighth day of the month preceding that in which the examination is to be held.

#### REMEMBRANCE DAY CONTEST

12th and 13th AUGUST, 1961

1800 hours to 1759 hours E.A.S.T

**David Tanner, VK3AAU**  
17 Wolsey Street,  
Mount Albert, Vic.

Firstly, would scribes and others please note the above address and endeavour to let me have your notes on the Friday before the 8th of October.

V.h.f. bands in general seem to have slid into the usual winter recess while some people are shuddering and the more fortunate ones of us build gear. DX has been almost non-existent on 8 mhz except for a few, so it looks as though we will have to wait for the next sunspot cycle for the last elusive JA districts, etc.

Some news from ZL is not encouraging, although I don't think we need to worry about similar happenings here. The following is a quote from "Break In" on Jan. 13 this year in the New Zealand Post Office in Auckland advised that because of widespread complaints—some direct to the Minister concerned—regulations had been invoked, so no operations on 51-53 Mc were concerned and no operation was to be permitted in the Auckland area while a tv. programme was being transmitted on 51-53 Mc. The Post Office Department officers regretted that this decision had been forced on them—in the middle of winter. The first of the problems and poor location of the transmitter of the present Auckland service appears to be responsible. We in VK hope that the situation improves.

Reports from most States seem to indicate that two metres is reviving after a couple of years in the doldrums, so we hope that this year's Ross Mill Contest takes some account of this. We are still in the dark about the results of the last contest, it would appear that we have been forgotten again. (Results appear elsewhere—Ed.).

Moves are afoot again to influence F.R. on the subject of c.v. permits. I would like to see if you have any ideas, please send them through the official channels so that a case may be prepared for F.R. to send to the Department.—AAU.

#### NEW SOUTH WALES

General—Latest news this month is the result of the Amateur Field Day on 14 Mc. A dozen or so city stations were portable, mostly in the mountains, with Dick Z2CF on Mt. Canobolas near Orange. Many country stations were active portable and at home locations in the west and south-west. Z2CF made the longest distance contact with Z2CI at Yanco. Distances of 175 miles. Country stations worked included 2WH, Z2GM, 1AJO, Z2BP and Z2AA. Conditions generally were very poor, but despite the cold and wind, the day was very successful.

The V.h.f. Committee for the next 12 months was elected at the April meeting, an all Z. committee. The members are: Barry Z2AF Chairman, Bob Z2AR Secretary, Eric Z2AF Vice-Chairman, with Tim Z2TM, Barry Z2AH and Alan Z2EW committee members. The lecture was by Bob Z2OA on the subject of equipment, which, judging from the questions asked, was well received by the large audience. Bob dealt with the use of the various types of s.w.r. bridges, g.d.o.s, and wave meters with transistor amplifiers, plus many useful hints.

The Fox Hunt on Wednesday night, 26th, with Bob Z2OA as the sign, was a loop. Warrumatta, was won by Paul Z2ZF, second Dave Z2AF, third Tim Z2TM, who covered the short-range running over the hills.

30 Mc.—Very little activity, only reported DX was by Keith Z2VL who worked JA8 and JA9 midday, April 30. Keith also reports a contact with 1A0 in New Moresby, who has worked 160 JAs this season.

44 Mc.—Sunday, April 8, Jim Z2BF, at Ilubo, worked the on sign at Ledge over from 1350 to 1500 hrs. on and off. Ledge was done by land-line, but although each could identify the other call sign, they were unable to establish two-way communication. Winners of the "Long Distance Trophy" for the year were Lance Z2KPM and Keith Z2VL/M from Murrumbidgee to the Gb.

78 Mc.—The signs of renewed activity in now that the 6 mhz DX season has passed. Stations active in this band include Z2AH, 3HL, Z2IO, 1QW, Z2CF, Z2AC with 1AWZ a

bewilderer to u.h.f. Current activity is all crystal controlled, on most bands by request. Typical gear for tr's is as follows: Z2AH starts at 8 Mc., tridex BUS to 24 Mc. pentode section to 48 Mc., 1B37V to 96, 1B37V to 192, 825 buffer and Q2QW/40 to 384, with 1A0 and half wave lines in the final tank. Z2CF has much the same multiplier chain with a Q2QW/13 buffer and Q2QW/20 to 384, with 1A0 and half wave to a 18 element phase array. His rx is a search rx with a 6CW4 Navigator as a grounded grid pre-amplifier.

1215 Mc.—Several stations are building gear. Z2AG has a mood-coil, using a T2A2 producing a watt or so of r.f., as yet the rx is not complete. Z2AC is building a final using a 3CB3. Alan Z2F is working on some and Z2AH has a rx working. Perhaps articles in recent issues of "QST" will promote more local interest.—Z2DF.

#### TELEVISION

A most important meeting of the V.h.f. Group was held on Wed. Apr. 19, to consider ways and means of raising the enthusiasm of v.h.f. operators in the activities of the Group. The attendance was very good, almost 40 members and included Barry Z2AG, Chairman of the VK3 V.h.f. Group.

Bill SARZ spoke to the proposed plans which included the following items: A publicity officer who would be an active Amateur, preferably a full member, to be elected through the SWI broadcast news of interest to the v.h.f. man. Consideration be given to reviewing the results of field days, fox hunts, aerobics and night riding, making these meetings more entertaining, both technically and socially, the latter by having supper at the conclusion of meetings.

#### ATTENTION ALL V.H.F. OPERATORS FOR THE INFORMATION OF ALL V.H.F. ENTHUSIASTS

If you have any v.h.f. news, re portables, field days, forthcoming schedules, record attempts, new gear being tried, new bands you are trying, any form of portable or mobile, or any other news, to 8, 5, 1, 6 mhz or above, your man is BILL ROPER, VK3ARZ, publicity officer for V.h.f. Group. Bill will be available to help you, news, etc., on 40 mhz on Sat. afternoons at 1500 hrs. E.A.S.T. around 7100 kcz. For 3 mhz opt. Bill will be on 144 mhz on Sunday morning at 0815 hrs. E.A.S.T. to receive any news from the Melbourne stations.

All this news will be used in the V.h.f. segment of the SWI morning broadcast through VK3SWI at 1030 hrs. If you want publicity for your efforts contact: Chairman Z2AG through the above bands or at his QTH, 100, Orchard Street, Mt. Waverley, phone 33-2296, and you will receive all the publicity you can hope for. All also applies to other Divisions who wish to use the service—all v.h.f. men alike.

Barry gave a brief talk on the VK3 Group's functions and its activities which appeared to be along similar lines planned here. Bill's plan was put to the meeting and was adopted unanimously. Bill then gave a brief talk on the position of publicity officer. A management committee was then elected to give impetus to the plan and the following constitute that committee: Chairman Z2AG, Vice-Chairman Kel Z2QF, Secretary John Z2CO, Bill SARZ, Ted Z2KPF, Howard Z2JY, John Z2CB, Des Z2FA, Mick Z2CZ, Ted 3AAD, Alan Z2GA and Alan Z2JO.

Thanks for your attendance chaps, we look forward to your enthusiastic participation in all our coming events.

The following revised rules for scrambles have been produced tentatively, 2 mhz, second Sunday, each month: 6 mhz, fourth Sunday, 1900-2000 hrs. on and off. The winner of a period of 6 months and the individual monthly scores will be totalled. The highest will be the winner. The winner of each section will be awarded a trophy and the runner-up will receive something worth while. Sections will be 6 mhz open, 3 mhz city (within 50 miles of P.O.), 3 mhz country (beyond 50 miles) and 6 mhz mobile. The winner of each section will be given by Bill SARZ over the SWI broadcast, so watch for the new scramble series in June. Remember too, that all national records of our Institute are eligible to receive the trophies.

The June meeting will deal with the re-vamping of the SCRAMBLE using the Am-

ateur bands, so come along and find out all about it from the start of the month. 21st. Remember, June 21 at 8 p.m. at the rooms, 478 Victoria Parade, East Melbourne.

48 Mc.—Due to the inactivity of the ionosphere, there has been very little activity dead apart from local activity. A few new stations have appeared and some old ones have returned. The 6 mhz scramble held on Sunday, 23rd April, resulted in a win for Kevin Z2KJ, who worked 1A0 and 1A1 at Kingston. The 144 Mc.—David SAW is active on this band and has worked quite a few Melbourne stations. Glen has a "niffcase special", running 8w. Input is 100 mhz. He is running 1A0 and 1A1, were R3 58 by Z2KJ and Z2JE, Not bad for 160 miles on low power. Z2LJ is on 50.4 from 1A0 and 1A1, north-west, Melbourne, and Col 30P hopes to be active from there soon.

The 6 mhz scramble held on Sunday, 23rd April, resulted in a win for Kevin Z2KJ, who worked 1A0 and 1A1 at Kingston. The 144 Mc.—David SAW is active on this band and has worked into Melbourne quite often during the month. Z2AR has rightly been with SAW which are being kept with monotonous regularity. SAW's signal is generally audible at 3CS' QTH when he's working. Ron. Z2LP on 144.8 at Warrigton on a 1000 linear using an 807 clamp tube. Reg Z2DF hopes to be on a.s.b. shortly, so better brush up on receiving techniques. Ben has t.v. but no one else has. But none others may like to try it.

Col 3FO, at Maldon, is active on 3 and looks for a 1000 linear. Col is on 144.83 and also reports that Z2LJ on 144.13 is also active in Maldon.

New stations include: 3DZ on 144.1 at Clayton, 3DZ on 144.1 at Lindoc, 3DZ on 144.9 using 8140 final and 7 antennas temporarily while building a 10 el. Yagi. There are Z2LP on 144.8 at Warrigton on a 1000 linear using an 807 clamp tube. Reg Z2DF hopes to be on a.s.b. shortly, so better brush up on receiving techniques. Ben has t.v. but no one else has. But none others may like to try it.

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#### SOUTH AUSTRALIA

30 Mc.—VK3 is still in the doldrums as far as Adelaide is concerned. On 4th and 8th Apr. JAS were in at Penola in the south-east of Victoria. Australian stations were active in Adelaide. SAW reports JAS on the 4th between 1830 and 1900 hrs. local time, and on the 8th at 2000 hrs. local time. The weather was not so good, but we will miss out on the excellent JAS break-throughs we had this time last year.

On the local scene we have a new station on 144 mhz, 3DZ, at Warrigton. On the band 100. With winter upon us, we find the long duplex contacts returning to the v.h.f. bands, and 3DZ, 3DZ and Z2FM have been indulging in complicated three-way on 8 and 3 mhz.

John Z2CJ is, at the time of writing, in Central Australia, but as yet has not been worked on 3.5 MHz made a trip to Mt. Lofy on 24th to work him with apparently negative results. A new car has been acquired by Doug Z2KK and so he is now able to leave for the west already functioning, with a tx on the way. That's the way it should be. Doug Z2AX is not to be heard portable near Maitland and claims it to be a fine DX location. Bill is only running 8w to a Z2B and a 3 el. beam, but can be worked practically anytime at R3.

Garry Z2FM is now eagerly awaiting the results of the latest c.w. exams and should be back in the west soon. He has been working read. Graham Z2AP is sitting for the next one, so we hope that these two prominent 6 mhz mobiles will bring us on 6. Incidentally, the 6 mhz scramble last 8th April was a 2 mhz fix. The locations seemed a little more difficult than usual, as only Z2DO, 5MT and your scribe were active. We would like to see more activity on 6 mhz. We would

(Continued on Page 15)

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# SIDEBA

**Bud Ponnatt, VK2AQJ**  
6 Alice Street,  
Queensbeyn, N.S.W

**WE TUNE**  
We all know how important it is to net accurately. It seems that when even two s.b. stations get together it is expected of them to be on the same frequency. When the third station joins in, it is imperative that the same frequency be employed.

To accurately net, it is not sufficient to "take" the tx on frequency, but some small amount of carrier re-injection is necessary for obtaining zero-beat. Once netted to a given frequency your tx must stay there. Drift in the v.f.o. cannot be tolerated and some v.f.o.s do still drift. Have you checked yours recently?

## THE V.F.O. AT VK2ON

The usual phasing s.b.h. tx uses sideband generation at 8 megs and mixes with a 5 meg. v.f.o. to produce 8.5 and 14 meg signals. With care, one can use the same v.f.o. converted to 5 megs to produce 1 meg signals. Inclusion of 21 and 26 meg. bands requires two conversion stages for convenient and stable operation. One should not be content with multiplying v.f.o. frequency drift.

A 6-7 meg. Command tx was modified into a tubeless v.f.o., Clapp circuit, quite standard design, with the 6AG7 oscillator on the external chassis. The tuned circuit is in the shell of the Command tx at the end of 4 ft. of double co-ax (or two pieces of single co-ax). Valve bases as plugs are satisfactory here, as the impedance is quite low. The warm-up drift of the 5 meg. arrangement was measured at 0.5 megs. From 1 to 10 minutes after switching on, the drift was 10 to 15 cycles per 40 minutes was 155 cycles in the reverse direction. As a 2 meg. v.f.o., measured at 1.85 megs, it was 15 cycles in minutes, and 50 cycles in 10 minutes. The drift in the reverse direction was 100 cycles after 10 minutes. There is room for improvement at a later stage. The figure given for the KW21 100 cycle after warm-up drift, nor the length of warm-up stated.

The v.f.o. covers 5-8 megs. approx. and the bandspread can be varied by 100 cycles. C1 Temperature compensation is not used as the coil is only affected by room temperature and long-term stability is not a requirement.

The inductance used is the roller-inductor behind the front panel. This is remounted, less roller, between the 1625 sockets so as to have a good clearance from the surrounding metal. The axis of the coil is changed through 90 degrees. Switching in of extra condensers is arranged by inserting an aerial valve base in a socket on the front panel, thus converting the tuning circuit to 1.8-2 megs. to cover the 1 meg. band. Precautions to prevent radiation of spurious signals on this band were mentioned later when discussing the mixer.

Now a few notes about condensers

- C1—100 pF, padder (middle var underneath)
- C2—100 pF variable (back cond. underneath)
- C3—100 pF, silver mica
- C4—100 pF, variable (front cond. underneath)
- C5—150 pF, silver mica
- C6—0.001 pF, silver mica for preference
- C7—0.001 pF, " " " "
- C8—0.005 pF, " " " "
- C9—0.005 pF, " " " "
- C10—500 pF trimmer with 1/2 watt fitted

As a 2 meg. v.f.o. the machine is very satisfactory. On 5 megs. the mechanical stability is not perfect, but if it is on a shelf by itself, all is well. The frequency may be set within 10 cycles by the five-pole trimmer. This is a very important item, this vernier control. Of course it has a greater "tuning-range" of 9 megs than on 2 megs. The electrical stability on both bands is really good. Regulation of the voltage is essential and one should be certain one has a good VR105/30. There are some faulty or inferior ones about. The voltage should stay within 1 per cent. of the operating value.

No cathode-follower or isolating stage is required. Changes to the plate circuit have very little effect on frequency. A poor 8AG7 may give poor stability. The voltage across the load will be of the order of 30 volts. No oscillation can be maintained over the band

required. C6 and C7 will have to be decreased in size. If squeaking occurs, these condensers should be increased. One should check the value of all fixed condensers before soldering in place. Variations from labelled values can produce unexpected results. Wandering the double co-ax line will affect the frequency slightly, but one does not do this while in QSO.

Next month the latest evolution of the mixer stage will be described (together with the circuit diagram of the v.f.o.—Ed.).

## BOOK REVIEW

Collins Radio Company, world renowned for their commercial and amateur single sideband equipment, have published a book, "Fundamentals of Single Sideband". This is a must for the serious minded Amateur who wishes to delve into the finer points of s.b.b. communication. The book gives a comprehensive coverage of all the aspects of this subject, dealing with sideband generation and amplification, reception and antennae and radio wave propagation. The chapters on Stabilised Master Oscillators and Frequency Standards are of particular interest.

While containing a certain amount of mathematics, the text is very readable and is designed for the Amateur as well as the professional man. Owners of Collins T831, T251, KW81 and KW22 equipment cannot afford to be without this publication. A worthwhile value to have in your library—printed on excellent paper with a vast number of illustrations, circuits and diagrams.

Copy from Collins Radio Company, Melbourne office. The Australian price is 50/-.

## PERSONAL

I had the honour to be the first station contacted by Dudley VKBQD, of Broken Hill, on 30 may after an absence of some 28 years. Dudley was using the 80 mhz band in 1953 when a member of the R.A.A.F. Wireless Reserve. He was using a 8145 in a gated screen amplifier and his 80 mhz diode. However, a G8RV antenna should be in use by now.

Another pre-war Amateur to use sideband in the 80 mhz band is VK2ZL, of Ballarat. Bill is using 8A5 and putting out an excellent signal. The results seen to justify an approach that is using, in producing the signal at a low level with twin triode balanced modulator. The line-up is a 6AG7 v.f.o., 6AG7 buffer, 12BH7 balanced modulator and an 807 Class B linear final. A 8A5 and a 6AQ5 are in the audio section.

West Australian, GJO, of the Perth suburb of Como, has recently completed a phasing tx containing the above-brief audio phasing network. A 1255 tube in 2L linear amplifier circuit puts a good signal into the Eastern States on 80 mhz.

A high frequency crystal filter on 8170 kc. is in operation in the tx of VK2ZU, at Yarrawonga in Northern Victoria. A band width of some 1.5 kc. is obtained by Frank who has been patiently working on this project for some time. A four diode balanced modulator is used to cancel the carrier and a pair of 8A5 tubes in the final. Frank is a beginner at the sideband business, being employed in the telephone branch of the P.M.C. Department and an exponent of the double sideband act on 40 mhz for some time.

## CORRECTION

Last month an error was made in stating the length of the G8RV antenna. The correct length of the antenna is 101 ft. 9 in. The popularity of this antenna is increasing, being in use at VKs ZASA, ZAPP, 30N, IAGJ and proposed by EDQ and KLTIDMU.

## VHF NOTES

(Continued from Page 13)

like to see more competitors in these fox hunts and anyone at all desirous of participation would be welcome to contact the President of the V.h.f. Group, Mick GZDR, for details of times or the band. As a matter of interest to all, the record number of cars present as entrants on one particular night is 16. This would have included 8, 2 and 1 mhz. 144 M. Only one expedition was made last month to Mt. Barker to work the south-east boys with negative results. SAW now has a 16 db gain for 2 mhz and hopes to realise 16 db of gain. The exact number of elements seems a little obscure at the moment. David runs approx. 70w, to a QZQ26/40.

## WESTERN AUSTRALIA

30 Mc.—Since last month we find that activity has been varied. There has been signs of DX with the appearance of the Russian tv. station and also ELKA at intervals. There have been a few JAs worked, but not very many.

VK6VF's beacon has been running for many hours and if you tune to 80.003 Mc. and conditions are right, you will hear it with m.c.w. Talking of beacons, we have learnt that there were two beacons operating in the band on 80.05 Mc. The call signs are Z51FX, which runs 70w, and Z51LA, which runs 10w, continuous.

The last fox hunt was on 144 Mc. and was mobile. The only successful hound was Roy 6RY who found him twice. Kevin GZCB has now changed his location and now works up the tv. station. It is very pleasing to hear several new call signs on 50 Mc. and we did enjoy working him. A very interesting event took place on 70u last night that being v.h.f. scramble. There was a half hour session in the morning and another half hour session in the afternoon.

Bob EBE is house building and finds that to keep progress going, requires continual checks and verbal requests to keep going. Cedric EZBC will be moving into his new QTH very soon.—ERY.

## TASMANIA

The V.h.f. Group are at the moment working on two projects. We are now preparing a circuit and kit sets for a 3 mhz tx-rx which we hope will enable more to make use of this band. We may also be able to supply these ready built—with a margin in aid of the club room fund. This rig will be capable of being used for fixed, mobile or portable use and should enable us to have on hand stations capable of being used in an emergency, field days, regattas and so forth. Head men on this job are ZLAS and ZGAI with help from ZTAA and ZDBE.

We hope to set up a Satellite Listening Station which will work in conjunction with the local Moonwatch team. Chief consultant here will be Paul ZTAA.

New call sign on 8 mhz is Brian ZTAA, who received a mighty signal from Sunday Bay. Ken WAKUT visited Hobart recently per U.S.S. Sutherland—had quite a few of us guessing, eventually we discovered that he was visiting Philop ZTAA. Ken seemed to be 8 mhz active on v.h.f. back home. He had Alan TMY engaged for two hours after the TWI broadcast.

V.h.f. news is now being re-broadcast from the length of the G8RV antenna. The correct length of the antenna is 101 ft. 9 in. The popularity of this antenna is increasing, being in use at VKs ZASA, ZAPP, 30N, IAGJ and proposed by EDQ and KLTIDMU.

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# Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

## PAYMENT OF LICENCE

Editor "A.R.," Dear Sir,  
Permit me space to reply briefly to Max VK3ARZ with respect to the second statement in his recent letter to the Editor in the May issue of "A.R."

Assuming the VKS Divisional membership to be, shall we say 350, I can assure Max that 249 of those members will each first of the month in eager anticipation of my making even a teeny-weeny slip of the pen which would permit them to get a little of their own back.

Bearing this in mind, is it logical that I would be foolish enough to put pen to paper without being doubly sure of my facts as they apply to VKS?

The fact that Max claims to having paid his licence renewal fee several times locally means nothing unless VKS, as I can assure him that in Adelaide he can only pay the fee to the Receiver of Public Money in the Adelaide G.P.O.

—Warwick Parsons, VK3PS.

## ROSS HULL CONTEST

Editor "A.R.," Dear Sir,  
I found it encouraging to read the replies of VK3AW, VK3CZT and VK3ABK in the May issue and a letter from VK3AA, but are these the only people sincerely interested in the Ross Hull Contest? I put pen to paper. What about VK3, VK5 and VK1? Don't the v.h.f. people there care? Other VK3 operators have spoken to me on the air, but in general they agreed with my proposals. In Adelaide very similar to those published in April "A.R." (p.15) was recommended to the Federal Contest Committee by the VK3 Division. However, insufficient time was allowed for anything to be done for the contest last season.

The scoring table I put forward was to illustrate the points I was trying to make. However, with slight modification, I think it would become a practical proposition. I put considerable thought into the values in the table and the changes must be changes for the better, by David VK3AW and Al VK3CZT. Two points that I neglected to state in my first letter are my reasons.

1. Local cross-country contacts serve no real positive purpose on 50 and 144 Mc. New stations, with the simple type of gear, always find themselves popular for the first month or so of operation and don't go short of contacts, contest or no contest. However, such contacts do, undoubtedly give the large-city operator a definite advantage without doubt the most favoured city in this respect is Melbourne. Look in your Call Book at the number of VK32 calls listed. Then compare Melbourne scores favoured so much that in the summer of 1955/56 and 1956/57 when the rules were such that local contacts were permitted, VK3 entries predominated with a cut of 30 on 50/56 and 11 out of 14 in 56/57. Entries were at an all-time low and some States were not represented at all. During the latter part of 1956 and early 1957 had the chance of meeting v.h.f. operators in VK3, 4 and 5, and I asked why the lack of enthusiasm for the Ross Hull. The reply invariably was "... the rules were too favourable to Melbourne operators because of their relatively great activity there." These were city v.h.f. men talking. They had activity all right, but not on the level existing in 3rd class. The country operators cannot always win every city station and surely the people to encourage are those in the mulls. If, however, general opinion throughout Australia shows that local contacts should have some value then to offset the advantage of numbers, perhaps a limitation could be placed on the number of long distance contacts with a particular station within the shorter ranges.

2. In the table submitted by VK3AW and VK3CZT, they have doubled the values in my tabulation in most cases. This, I feel, leads to awkward situations in scoring too big a difference in the value of QSO in adjoining distance areas where such a difference is not

warranted. I think this apparent random doubling of the points serves no purpose other than to make for large scores.

My suggestion about operating for one week within the Dec-Jan. or Jan-Feb. period at the operator's discretion, may answer VK3AA's request.

VK3ABK caused me to have further thoughts on the value of contacts for the higher bands over the shorter distances, and because of the very limited activity on these bands at the present time, I feel it would not be inconsistent with my foregoing statements to modify my original table as follows:—

	28c	57c
Over 1 and up to 10 miles	0	1
" 10 " 25 "	1	2
" 25 " 50 "	2	4
" 50 " 100 "	4	10
" 100 " 200 "	6	as as
" 200 " 300 "	as as	before before

The remainder of the table is to be as before. Remember, it is up to the v.h.f. men in each State to agree amongst themselves, and then, through their Divisional Committee, to inform F.C.C. of their wishes. Remember, too, to keep things simple and if any radically new ideas come up, let everyone know by posting the idea in the mag. In this way, the views submitted to F.C.C. shouldn't be too divergent and that body should be able to come up with changed rules acceptable to everybody with a minimum of effort.

Now is the time to act if you want new rules for the 1957/58 contest. Get crackin'—see you in the Ross Hull

—David Rankin, VK3QV

## EUROPEAN OSCILLATOR CIRCUITS

Editor "A.R.," Dear Sir,

Referring to the article on European oscillator circuits recently reprinted from "CQ" magazine, in particular the Clapp-Franklin circuit of Telefunken Laboratories.

This circuit seems to have undergone some major changes during reprinting.

- The anode circuit of the second triode is taken to B neg. instead of B plus.
- Some rather amazing values are quoted for the feedback network, i.e. 0.015  $\mu$ F. and 0.01  $\mu$ F.

To maintain oscillation, a circuit must satisfy the equation  $A \times B$  equals 1, where A equals valve gain, B equals feedback.

With the values of capacity quoted it would be necessary for the two triodes to have an overall gain of approximately 100.

Triodes in such a circuit at 30 Mc. are more likely to have a gain in the vicinity of 3, i.e.  $2 \times 2$  equals 4.

I feel that the values of 0.015 and 0.01 quoted were probably, in the original, 0.0015 and 0.001, under which condition the formula  $A \times B$  equals 1 can be satisfied by an overall gain of approximately unity.

The above theoretical considerations are borne out by my experience when I built this circuit which, after the above mentioned modifications, proved to be very satisfactory and all that was originally claimed.

—Cyrl B. Edmunds, VK3AEZ.

## THE BOTTOM "40" OF 30 METRE PHASE

In the "good old days" before the fateful 15th March, 1960, DX operators' minds were of working 30 metre s.s.b. DX by tuning the frequency range 14300 to 14330 kc. This segment of the 30 metre band was affectionately dubbed "the top 50".

A careful scrutiny of this "top 50" today would reveal a totally different situation. A solid mass of S9 plus signals from New or American stations would be the only thing heard, with scarcely a space in the 30 kc. segment. Any DX station brave enough to appear at a signal level less than S9 would be unredable for much of the time.

The stronger ones who do manage to make themselves heard above the cacophony are faced with a constant stream of W calls or the familiar "break, break". Usually the inbred DX station has to give up eventually even if he tries to cope with the Herculean task of handling out reports. Under these circumstances, a solid QSO is not only rare but also well nigh impossible.

The net result is that nobody is happy with the situation as it is at present. Here in Canada, the DX-minded s.s.b. operators have been trying their hardest to convince DX operators throughout the world that the spot for VEs and the DX is below 14.3 Mc.—that is, the "lower or bottom 40", the band of frequencies between 14100 and 14300 kc.

Until recently, we have been "wee voices crying out in the wilderness", but during the

past week, several DX stations have favoured the "Bottom 40" with their presence: VREAC, ZDIPR, L2IWD, VE2AB, VK3AB, ZL3IA, GIBKVC, ZL1ATQ. These are just a few DXers finding the "Bottom 40" comfortable.

Now, it only needs a final push-pull effort by all of us to make the "Bottom 40" a permanent home for DX s.s.b. operation on 30 mc.

May we count upon your support in this programme? With your support, we would soon see the return of many well known s.s.b. operators who have become discouraged and have faded away, no doubt due to the chaotic conditions existing on the h.f. end of the 30 metre band.

Not only would these old-timers return, but also new stations would appear on 30 mc, as soon as they realised that this has become by custom "sideband DX territory".

Only in this way can international sideband operation make progress. Only in this manner can it assume the stature, within our great hobby, that it so rightly deserves.

See you on the "LOWER 40"—Goon!

—"Bob" VE3AYE (Sec. op. of VE3BYI), Public Relations Officer, Ontario DX Association.

# LOW DRIFT CRYSTALS FOR AMATEUR BANDS

ACCURACY 0.02% OF  
STATED FREQUENCY

3.5 and 7 Mc.

Unmounted, £2/10/0

Mounted, £3/0/0

12.5 and 14 Mc.  
Fundamental Crystals,  
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Spot Frequency Crystals  
Prices on Application.

Regrinds £1/10/0

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15 CLAREMONT CRES.,  
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VICTORIA

## NOTES

### FEDERAL

#### NON ISSUANCE OF R.D. AND N.P.D. CERTIFICATES

Place getters in the 1961 Remembrance Day and National Field Contests will be wondering why they have not received their certificates. The truth of the matter is that all the Federal Certificates were damaged by fire and water last year, and so, pending insurance settlements and what-have-you, nothing much could be done about it.

Work is progressing on new designs for most of the W.I.A. Certificates, but it will be a few months yet before designs, art work and printing has been decided and completed. In the meantime a few of the old certificates have been salvaged—with the exception of the R.D., of which the remaining very few were damaged beyond salvage, and three have been gullitied around the edges, resulting in a reasonably respectable certificate which will have to suffice for this time being.

#### EX FEDERAL OFFICERS ORDAINED AS MINISTERS

Mr. John Rice-Oxley, VK3AKO, former officer of the Federal Executive, has recently been ordained a Minister of the Church of England and has been located as Curate to St. Marks, Spotwood, and St. Paul's, Kingsville. Mr. Oxley was a member of the Church of England in 1949, John joined the Postmaster-General's Department and became a cadet draftsman. He nearly completed the Diploma of Electronics Engineering (the Royal Melbourne Technical College during this time and in 1954 commenced as a draftsman with the R.M.G. Research Laboratories, completing the next two years with Research, he completed his Diploma.

In 1958 John left the P.M.G.'s Department to commence a Licence in Theology at Ridley College, Melbourne, a course which he has now successfully completed. Although he has been inactive due to his studies, John hopes to soon get back on the air again.

#### G.E. HAM NEWS

Many will remember "Lighthouse Larry" of General Electric Company, U.S.A., and that excellent publication G.E. Ham News.

A recent letter from Lighthouse Larry advised that distribution of G.E. Ham News outside the United States is handled through the International General Electric Company. They ship quantities of each issue to their representatives in more than forty countries.

If you are interested in receiving copies of future issues you should write to:

W. Campbell,  
Director,  
Australian General Electric Ltd.,  
187 Kent Street, Sydney.

Also G.E. Ham News' third bound volume and G.E. Ham News S.A.B. Package, second edition, are ready for distribution. These can be obtained by sending a money order to the value of four dollars to:

"Lighthouse Larry",  
General Electric Company,  
315 East Ninth Street,  
Cincinnati, Ohio, U.S.A.

Dollar money orders for technical publications are available from all Post Offices.

#### I.A.R.U. YEAR IN REVIEW

As has been the custom, the December Calendar of the Union contains a brief report by the Hqrs. on the affairs of the Union for the past year.

Membership in the Union increased from 54 to 86, the Liga dos Amadores Radio de Angola and Radio Club de Angola, Africa, the E. Salvador being welcomed into membership during 1960. Although in the course of the year the Hqrs. engaged in correspondence with several potential new members, no member has as yet resulted in a formal application.

Member Societies indicate a continuing growth in their membership, paralleling the increase in number of Amateurs throughout the world. The Radio Amateur Call Book Magazine currently lists more than 100,000 Amateurs outside the U.S. and possessions; the comparable figure

ten years ago was only 43,000. Neither figure includes Amateurs in countries from which statistical information is not regularly available, notably the U.S.S.R. In the U.S., the number of Amateurs increased from 90,000 to more than 200,000 during the past ten years.

The fourth meeting of the Region I, Division was held at Folkestone, U.K., June 13-17, attended by 40 delegates from 15 countries, plus six observers. The gathering discussed European Amateur allocations, governmental liaison, I.T.U.'s Panel of Experts, and a general review of the 1959 Geneva Radio Conference. The next meeting is contemplated for 1963 in Stockholm.

The I.T.U. gave notice, at mid-year, that Iran had withdrawn its objection, filed ten months ago, to consideration of the interests of Amateurs and those of other countries. The United States signed third-party message traffic agreements with Haiti, Honduras and Paraguay.

There was no international conference of Amateurs held during 1960, although in May, 1961, the new regulations of the Geneva Radio Conference came into effect. An extraordinary conference on frequency allocations for space communications is contemplated for 1963, preparatory work commenced in some countries during 1960. The I.T.U. will study the problem of congestion in 4 to 37.5 Mc. is scheduled to meet in Geneva during 1961, and here again preparatory work in several countries has been in progress.

The Union Belge des Amateurs-Emetteurs reported extensive operation by its Amateurs when national communications were disrupted in the Congo. A communication emergency net, headed by the official station of the Radio Club de Chile (C33AA) in Santiago handled much traffic during the earth quake and sea quake.

#### UNION MEMBERS

Arthur L. Budington, W1BUD, I.A.R.U. Secretary and A.R.E.L. Secretary and General Manager, retired on Dec. 31, 1960. He had worked with the League more than 20 years, and had been Secretary of the Union since 1949. We know all member societies will join the Hqrs. in an expression of deep appreciation for his many years of service to Amateur Radio over the years, particularly in the field of international conference participation, and in wishing him many happy years of retirement.

The A.R.E.L. Board of Directors elected John Hanton as Secretary of the League effective Jan. 1, 1961, at which time he also became Secretary of the I.A.R.U. as provided in Article III, Para. 4 of the Union constitution.

#### International Regulatory Matters

The next international regulatory event with potential effects on the Amateur Radio Service is a meeting of the Panel of Experts in Geneva, Switzerland, in April 1961. The Panel has been assigned the task of studying the problem of congestion in the bands between 4 and 27.5 Mc., and of making recommendations as to the steps that should be taken for the purpose of relieving the pressure on those bands. The Panel's membership will consist of the four heads of the permanent organs of I.T.U. (Secretary-General and chairmen of I.F.R.B., C.C.I.R., C.C.I.T.T.), plus up to seven additional persons chosen by the Administrative Council for its meeting in April 1961. The Panel has been prepared and submitted to the Administrative Council. The Council will then consider the report and recommendations and, after consulting administrations, will decide whether any further action should be taken, such as calling another international radio conference.

It is expected that the June Calendar will be the last to report on panel members as chosen by the Administrative Council. Member Societies are urged to maintain liaison with their governments in connection with any activity involving participation in the work of the Panel of Experts, so that the interests of the Amateur Radio Service may be properly safeguarded.

#### Silent Key—GSDQ

We regret to record the passing of Mr. Wm. Radcliff Metcalfe, GSDQ, who was President

## SILENT KEY

It is with deep regret that we record the passing of:

VK3AGB—Pete Gibbons.

VK5LT—Pat Leonard.

of the R.S.G.B. during 1960. He succumbed on Christmas Day, 1960, after a long illness. "Silent Key" progression to the R.S.G.B. Presidential Chair was remarkable. He became a member of the Council in Jan. 1955, upon his election to the office of Zonal Representative for Northern England. Two years later, he was elected Hon. Treasurer, an office he held while still acting as a Zonal Representative. In Jan. 1959, he became Executive Vice-President, and on Jan. 1, 1960, he succeeded Dr. Smith-Rose as R.S.G.B. President.

GSDQ was a most enthusiastic Radio Amateur. Licensed before the last war, he was a first class telegraphist, but during more recent years he used telephony a good deal on 3.5 Mc. For some time he was a member of the team of R.S.G.B. Newsletter readers, helping to provide a service for listeners in the North-east of England.

#### SUMMARY OF I.T.U. MONITORING REPORTS

Here is a summary of unauthorised stations heard in the Amateur bands during the period May through August, 1960, as reported by the International Frequency Registration Board Stations operating in accordance with the Atlantic City Convention (1947) are not reported. Stations heard in the Amateur bands only once during the four-month period are not reported, either.

Freq.	Call/GRA	Type of Signal
7,008	APK	Human
7,000	Calro	"
7,000	Part	"
7,000	Peking	"
7,073	Joanna	"
7,000	Joanna	"
7,000	Peking	"
7,001	Peking	"
7,100	U.S.B.R.	"
14,387	NNN23	Automatic A1
16,303	IRL23	"
16,303	IRL23	"
21,000	OLU	Radio Teletype F1
21,001	OLU	Automatic A1
21,003	OLU	"
21,003	OLU	Broadcast
21,100	SLG30	Radio Teletype F1
21,300	ULV	Automatic A1

## FEDERAL QSL BUREAU

Considerable difficulty is being experienced with the disposal of incoming cards for VK9 stations. This year's list of Antarctic Hams is the last and the last call sign will help to place cards in the correct hands is requested to supply the information to this Bureau. Later it is hoped to publish a list showing full details of the 1961 team. Cards for some stations of the 1960 team are still on hand and the current mainland address of VK9HD, I. Douglas, ex Davis Sea, is required.

The Taiwan American Radio Club has opened a QSL Bureau. Cards should be sent either to: T.A.R.C., Box 24, U.S.T.I.C., A.P.O. 88, Chungking, Taiwan, or to T.A.R.C., United States Taiwan, Defence Command, Taipei, Taiwan, Republic of China. The Club Secretary is John G. W4GQ.

Hereunder is a full list of the licenses issued to members of the 1961 Antarctic team, together with location and home State and other details—

Davis  
VK9AA—A. Warriner (Tony), Vic. (QSL via VK9)  
GDA—A. Brown (Alex), Vic.  
GDA—A. Brown (Alex), Vic.  
SMH—M. Hay, W.A.  
ONL—N. Lind (Nils), Vic.  
VJ—B. Jabs, Vic.

Macquarie  
VK9CH—C. Harris, QSL  
ODW—W. Denham, N.S.W.  
OWY—W. Young, Vic.

Wilkes  
VK9E—K. Harrison, N.Y. (U.S.A.).  
GJB—J. Breckinridge (John), N.Y. (U.S.A.).  
ALC—G. Kempthorn, N.Y. (U.S.A.).  
GDC—W. Denham, N.Y. (U.S.A.).  
GNR—N. Smithurst, W.A.  
GPE—P. Stanfield, W.A.  
GRT—R. Tordella (Ray), N.S.W.  
GTC—T. Cordwell (Tom), W.A. (QSL via VK9XG)

OVK—S. Grimesley (Steve), N.S.W. (VK9VK).  
OWB—W. Burch, Vic.  
OWE—W. Hogan, W.A.  
OWY—W. Budd, N.S.W.  
SANDY—S. Sanderson (Virginia), U.S.A.).  
CWW—W. Wilson, Virginia (U.S.A.).

# PHILIPS



## TRANSMITTING AND RECTIFYING TUBES FOR MOBILE EQUIPMENT

The necessity of telecommunication equipment for sea and air transport is obvious. In this field, telecommunication equipment is often obligatory. In many other fields, however, a need for communication is equally felt, but the bulk and cost of transceivers of usual design has long been prohibitive. Faced with this problem, equipment designers and tube and component manufacturers, working in close co-operation, have gradually developed mobile transmitting equipment that successfully combines small dimensions, low cost, ease of operation, high and dependable performance. As a result, mobile telecommunication equipment is being used on an ever-increasing scale in numerous fields, as, e.g.:

- coasters.
- motor launches of shipping agencies, ships' chandlers, contractors of harbour works.
- small fishing boats.
- tugs (e.g., for direct communication with their tow).
- seagoing yachts and other small maritime craft.
- fireguard for contact with central office.
- taxi cabs for contact with the central point.
- doctors' cars for contact with their base.
- building firms for contact between remote or not easily accessible spots.
- public utility firms for contact with their outside personnel.
- service firms for contact with their personnel on vehicles.
- lonely farms in sparsely populated areas.
- airport vehicles.

### Transmitting tubes

PREFERRED TYPES

Further additions to the range of "quick-heating" tubes will be announced shortly.

TYPE OF TUBE	QCE2/15 Triode (G3625)	QCE4/15 Diode (G3626)	QCE12/12 Triode (G3627)	QCE33/14T Triode (G3628)	QCE54/15 Diode (G3629)	QCE13/20 Diode (G3630)	QCE14/40 Diode (G3631)	QCE35/15S Triode (G3632)	QCE36/40 Diode (G3633)	QCE11/15H Triode (G3634)	QCE12/20H Triode (G3635)	QCE13/20H Triode (G3636)	QCE14/40H Triode (G3637)	QCE15/40H Triode (G3638)	QCE16/40H Triode (G3639)	QCE17/40H Triode (G3640)	QCE18/40H Triode (G3641)	QCE19/40H Triode (G3642)	QCE20/40H Triode (G3643)	QCE21/40H Triode (G3644)	QCE22/40H Triode (G3645)	QCE23/40H Triode (G3646)	QCE24/40H Triode (G3647)	QCE25/40H Triode (G3648)	QCE26/40H Triode (G3649)	QCE27/40H Triode (G3650)	QCE28/40H Triode (G3651)	QCE29/40H Triode (G3652)	QCE30/40H Triode (G3653)	QCE31/40H Triode (G3654)	QCE32/40H Triode (G3655)	QCE33/40H Triode (G3656)	QCE34/40H Triode (G3657)	QCE35/40H Triode (G3658)	QCE36/40H Triode (G3659)	QCE37/40H Triode (G3660)	QCE38/40H Triode (G3661)	QCE39/40H Triode (G3662)	QCE40/40H Triode (G3663)	QCE41/40H Triode (G3664)	QCE42/40H Triode (G3665)	QCE43/40H Triode (G3666)	QCE44/40H Triode (G3667)	QCE45/40H Triode (G3668)	QCE46/40H Triode (G3669)	QCE47/40H Triode (G3670)	QCE48/40H Triode (G3671)	QCE49/40H Triode (G3672)	QCE50/40H Triode (G3673)	QCE51/40H Triode (G3674)	QCE52/40H Triode (G3675)	QCE53/40H Triode (G3676)	QCE54/40H Triode (G3677)	QCE55/40H Triode (G3678)	QCE56/40H Triode (G3679)	QCE57/40H Triode (G3680)	QCE58/40H Triode (G3681)	QCE59/40H Triode (G3682)	QCE60/40H Triode (G3683)	QCE61/40H Triode (G3684)	QCE62/40H Triode (G3685)	QCE63/40H Triode (G3686)	QCE64/40H Triode (G3687)	QCE65/40H Triode (G3688)	QCE66/40H Triode (G3689)	QCE67/40H Triode (G3690)	QCE68/40H Triode (G3691)	QCE69/40H Triode (G3692)	QCE70/40H Triode (G3693)	QCE71/40H Triode (G3694)	QCE72/40H Triode (G3695)	QCE73/40H Triode (G3696)	QCE74/40H Triode (G3697)	QCE75/40H Triode (G3698)	QCE76/40H Triode (G3699)	QCE77/40H Triode (G3700)	QCE78/40H Triode (G3701)	QCE79/40H Triode (G3702)	QCE80/40H Triode (G3703)	QCE81/40H Triode (G3704)	QCE82/40H Triode (G3705)	QCE83/40H Triode (G3706)	QCE84/40H Triode (G3707)	QCE85/40H Triode (G3708)	QCE86/40H Triode (G3709)	QCE87/40H Triode (G3710)	QCE88/40H Triode (G3711)	QCE89/40H Triode (G3712)	QCE90/40H Triode (G3713)	QCE91/40H Triode (G3714)	QCE92/40H Triode (G3715)	QCE93/40H Triode (G3716)	QCE94/40H Triode (G3717)	QCE95/40H Triode (G3718)	QCE96/40H Triode (G3719)	QCE97/40H Triode (G3720)	QCE98/40H Triode (G3721)	QCE99/40H Triode (G3722)	QCE100/40H Triode (G3723)	QCE101/40H Triode (G3724)	QCE102/40H Triode (G3725)	QCE103/40H Triode (G3726)	QCE104/40H Triode (G3727)	QCE105/40H Triode (G3728)	QCE106/40H Triode (G3729)	QCE107/40H Triode (G3730)	QCE108/40H Triode (G3731)	QCE109/40H Triode (G3732)	QCE110/40H Triode (G3733)	QCE111/40H Triode (G3734)	QCE112/40H Triode (G3735)	QCE113/40H Triode (G3736)	QCE114/40H Triode (G3737)	QCE115/40H Triode (G3738)	QCE116/40H Triode (G3739)	QCE117/40H Triode (G3740)	QCE118/40H Triode (G3741)	QCE119/40H Triode (G3742)	QCE120/40H Triode (G3743)	QCE121/40H Triode (G3744)	QCE122/40H Triode (G3745)	QCE123/40H Triode (G3746)	QCE124/40H Triode (G3747)	QCE125/40H Triode (G3748)	QCE126/40H Triode (G3749)	QCE127/40H Triode (G3750)	QCE128/40H Triode (G3751)	QCE129/40H Triode (G3752)	QCE130/40H Triode (G3753)	QCE131/40H Triode (G3754)	QCE132/40H Triode (G3755)	QCE133/40H Triode (G3756)	QCE134/40H Triode (G3757)	QCE135/40H Triode (G3758)	QCE136/40H Triode (G3759)	QCE137/40H Triode (G3760)	QCE138/40H Triode (G3761)	QCE139/40H Triode (G3762)	QCE140/40H Triode (G3763)	QCE141/40H Triode (G3764)	QCE142/40H Triode (G3765)	QCE143/40H Triode (G3766)	QCE144/40H Triode (G3767)	QCE145/40H Triode (G3768)	QCE146/40H Triode (G3769)	QCE147/40H Triode (G3770)	QCE148/40H Triode (G3771)	QCE149/40H Triode (G3772)	QCE150/40H Triode (G3773)	QCE151/40H Triode (G3774)	QCE152/40H Triode (G3775)	QCE153/40H Triode (G3776)	QCE154/40H Triode (G3777)	QCE155/40H Triode (G3778)	QCE156/40H Triode (G3779)	QCE157/40H Triode (G3780)	QCE158/40H Triode (G3781)	QCE159/40H Triode (G3782)	QCE160/40H Triode (G3783)	QCE161/40H Triode (G3784)	QCE162/40H Triode (G3785)	QCE163/40H Triode (G3786)	QCE164/40H Triode (G3787)	QCE165/40H Triode (G3788)	QCE166/40H Triode (G3789)	QCE167/40H Triode (G3790)	QCE168/40H Triode (G3791)	QCE169/40H Triode (G3792)	QCE170/40H Triode (G3793)	QCE171/40H Triode (G3794)	QCE172/40H Triode (G3795)	QCE173/40H Triode (G3796)	QCE174/40H Triode (G3797)	QCE175/40H Triode (G3798)	QCE176/40H Triode (G3799)	QCE177/40H Triode (G3800)	QCE178/40H Triode (G3801)	QCE179/40H Triode (G3802)	QCE180/40H Triode (G3803)	QCE181/40H Triode (G3804)	QCE182/40H Triode (G3805)	QCE183/40H Triode (G3806)	QCE184/40H Triode (G3807)	QCE185/40H Triode (G3808)	QCE186/40H Triode (G3809)	QCE187/40H Triode (G3810)	QCE188/40H Triode (G3811)	QCE189/40H Triode (G3812)	QCE190/40H Triode (G3813)	QCE191/40H Triode (G3814)	QCE192/40H Triode (G3815)	QCE193/40H Triode (G3816)	QCE194/40H Triode (G3817)	QCE195/40H Triode (G3818)	QCE196/40H Triode (G3819)	QCE197/40H Triode (G3820)	QCE198/40H Triode (G3821)	QCE199/40H Triode (G3822)	QCE200/40H Triode (G3823)	QCE201/40H Triode (G3824)	QCE202/40H Triode (G3825)	QCE203/40H Triode (G3826)	QCE204/40H Triode (G3827)	QCE205/40H Triode (G3828)	QCE206/40H Triode (G3829)	QCE207/40H Triode (G3830)	QCE208/40H Triode (G3831)	QCE209/40H Triode (G3832)	QCE210/40H Triode (G3833)	QCE211/40H Triode (G3834)	QCE212/40H Triode (G3835)	QCE213/40H Triode (G3836)	QCE214/40H Triode (G3837)	QCE215/40H Triode (G3838)	QCE216/40H Triode (G3839)	QCE217/40H Triode (G3840)	QCE218/40H Triode (G3841)	QCE219/40H Triode (G3842)	QCE220/40H Triode (G3843)	QCE221/40H Triode (G3844)	QCE222/40H Triode (G3845)	QCE223/40H Triode (G3846)	QCE224/40H Triode (G3847)	QCE225/40H Triode (G3848)	QCE226/40H Triode (G3849)	QCE227/40H Triode (G3850)	QCE228/40H Triode (G3851)	QCE229/40H Triode (G3852)	QCE230/40H Triode (G3853)	QCE231/40H Triode (G3854)	QCE232/40H Triode (G3855)	QCE233/40H Triode (G3856)	QCE234/40H Triode (G3857)	QCE235/40H Triode (G3858)	QCE236/40H Triode (G3859)	QCE237/40H Triode (G3860)	QCE238/40H Triode (G3861)	QCE239/40H Triode (G3862)	QCE240/40H Triode (G3863)	QCE241/40H Triode (G3864)	QCE242/40H Triode (G3865)	QCE243/40H Triode (G3866)	QCE244/40H Triode (G3867)	QCE245/40H Triode (G3868)	QCE246/40H Triode (G3869)	QCE247/40H Triode (G3870)	QCE248/40H Triode (G3871)	QCE249/40H Triode (G3872)	QCE250/40H Triode (G3873)	QCE251/40H Triode (G3874)	QCE252/40H Triode (G3875)	QCE253/40H Triode (G3876)	QCE254/40H Triode (G3877)	QCE255/40H Triode (G3878)	QCE256/40H Triode (G3879)	QCE257/40H Triode (G3880)	QCE258/40H Triode (G3881)	QCE259/40H Triode (G3882)	QCE260/40H Triode (G3883)	QCE261/40H Triode (G3884)	QCE262/40H Triode (G3885)	QCE263/40H Triode (G3886)	QCE264/40H Triode (G3887)	QCE265/40H Triode (G3888)	QCE266/40H Triode (G3889)	QCE267/40H Triode (G3890)	QCE268/40H Triode (G3891)	QCE269/40H Triode (G3892)	QCE270/40H Triode (G3893)	QCE271/40H Triode (G3894)	QCE272/40H Triode (G3895)	QCE273/40H Triode (G3896)	QCE274/40H Triode (G3897)	QCE275/40H Triode (G3898)	QCE276/40H Triode (G3899)	QCE277/40H Triode (G3900)	QCE278/40H Triode (G3901)	QCE279/40H Triode (G3902)	QCE280/40H Triode (G3903)	QCE281/40H Triode (G3904)	QCE282/40H Triode (G3905)	QCE283/40H Triode (G3906)	QCE284/40H Triode (G3907)	QCE285/40H Triode (G3908)	QCE286/40H Triode (G3909)	QCE287/40H Triode (G3910)	QCE288/40H Triode (G3911)	QCE289/40H Triode (G3912)	QCE290/40H Triode (G3913)	QCE291/40H Triode (G3914)	QCE292/40H Triode (G3915)	QCE293/40H Triode (G3916)	QCE294/40H Triode (G3917)	QCE295/40H Triode (G3918)	QCE296/40H Triode (G3919)	QCE297/40H Triode (G3920)	QCE298/40H Triode (G3921)	QCE299/40H Triode (G3922)	QCE300/40H Triode (G3923)	QCE301/40H Triode (G3924)	QCE302/40H Triode (G3925)	QCE303/40H Triode (G3926)	QCE304/40H Triode (G3927)	QCE305/40H Triode (G3928)	QCE306/40H Triode (G3929)	QCE307/40H Triode (G3930)	QCE308/40H Triode (G3931)	QCE309/40H Triode (G3932)	QCE310/40H Triode (G3933)	QCE311/40H Triode (G3934)	QCE312/40H Triode (G3935)	QCE313/40H Triode (G3936)	QCE314/40H Triode (G3937)	QCE315/40H Triode (G3938)	QCE316/40H Triode (G3939)	QCE317/40H Triode (G3940)	QCE318/40H Triode (G3941)	QCE319/40H Triode (G3942)	QCE320/40H Triode (G3943)	QCE321/40H Triode (G3944)	QCE322/40H Triode (G3945)	QCE323/40H Triode (G3946)	QCE324/40H Triode (G3947)	QCE325/40H Triode (G3948)	QCE326/40H Triode (G3949)	QCE327/40H Triode (G3950)	QCE328/40H Triode (G3951)	QCE329/40H Triode (G3952)	QCE330/40H Triode (G3953)	QCE331/40H Triode (G3954)	QCE332/40H Triode (G3955)	QCE333/40H Triode (G3956)	QCE334/40H Triode (G3957)	QCE335/40H Triode (G3958)	QCE336/40H Triode (G3959)	QCE337/40H Triode (G3960)	QCE338/40H Triode (G3961)	QCE339/40H Triode (G3962)	QCE340/40H Triode (G3963)	QCE341/40H Triode (G3964)	QCE342/40H Triode (G3965)	QCE343/40H Triode (G3966)	QCE344/40H Triode (G3967)	QCE345/40H Triode (G3968)	QCE346/40H Triode (G3969)	QCE347/40H Triode (G3970)	QCE348/40H Triode (G3971)	QCE349/40H Triode (G3972)	QCE350/40H Triode (G3973)	QCE351/40H Triode (G3974)	QCE352/40H Triode (G3975)	QCE353/40H Triode (G3976)	QCE354/40H Triode (G3977)	QCE355/40H Triode (G3978)	QCE356/40H Triode (G3979)	QCE357/40H Triode (G3980)	QCE358/40H Triode (G3981)	QCE359/40H Triode (G3982)	QCE360/40H Triode (G3983)	QCE361/40H Triode (G3984)	QCE362/40H Triode (G3985)	QCE363/40H Triode (G3986)	QCE364/40H Triode (G3987)	QCE365/40H Triode (G3988)	QCE366/40H Triode (G3989)	QCE367/40H Triode (G3990)	QCE368/40H Triode (G3991)	QCE369/40H Triode (G3992)	QCE370/40H Triode (G3993)	QCE371/40H Triode (G3994)	QCE372/40H Triode (G3995)	QCE373/40H Triode (G3996)	QCE374/40H Triode (G3997)	QCE375/40H Triode (G3998)	QCE376/40H Triode (G3999)	QCE377/40H Triode (G4000)	QCE378/40H Triode (G4001)	QCE379/40H Triode (G4002)	QCE380/40H Triode (G4003)	QCE381/40H Triode (G4004)	QCE382/40H Triode (G4005)	QCE383/40H Triode (G4006)	QCE384/40H Triode (G4007)	QCE385/40H Triode (G4008)	QCE386/40H Triode (G4009)	QCE387/40H Triode (G4010)	QCE388/40H Triode (G4011)	QCE389/40H Triode (G4012)	QCE390/40H Triode (G4013)	QCE391/40H Triode (G4014)	QCE392/40H Triode (G4015)	QCE393/40H Triode (G4016)	QCE394/40H Triode (G4017)	QCE395/40H Triode (G4018)	QCE396/40H Triode (G4019)	QCE397/40H Triode (G4020)	QCE398/40H Triode (G4021)	QCE399/40H Triode (G4022)	QCE400/40H Triode (G4023)	QCE401/40H Triode (G4024)	QCE402/40H Triode (G4025)	QCE403/40H Triode (G4026)	QCE404/40H Triode (G4027)	QCE405/40H Triode (G4028)	QCE406/40H Triode (G4029)	QCE407/40H Triode (G4030)	QCE408/40H Triode (G4031)	QCE409/40H Triode (G4032)	QCE410/40H Triode (G4033)	QCE411/40H Triode (G4034)	QCE412/40H Triode (G4035)	QCE413/40H Triode (G4036)	QCE414/40H Triode (G4037)	QCE415/40H Triode (G4038)	QCE416/40H Triode (G4039)	QCE417/40H Triode (G4040)	QCE418/40H Triode (G4041)	QCE419/40H Triode (G4042)	QCE420/40H Triode (G4043)	QCE421/40H Triode (G4044)	QCE422/40H Triode (G4045)	QCE423/40H Triode (G4046)	QCE424/40H Triode (G4047)	QCE425/40H Triode (G4048)	QCE426/40H Triode (G4049)	QCE427/40H Triode (G4050)	QCE428/40H Triode (G4051)	QCE429/40H Triode (G4052)	QCE430/40H Triode (G4053)	QCE431/40H Triode (G4054)	QCE432/40H Triode (G4055)	QCE433/40H Triode (G4056)	QCE434/40H Triode (G4057)	QCE435/40H Triode (G4058)	QCE436/40H Triode (G4059)	QCE437/40H Triode (G4060)	QCE438/40H Triode (G4061)	QCE439/40H Triode (G4062)	QCE440/40H Triode (G4063)	QCE441/40H Triode (G4064)	QCE442/40H Triode (G4065)	QCE443/40H Triode (G4066)	QCE444/40H Triode (G4067)	QCE445/40H Triode (G4068)	QCE446/40H Triode (G4069)	QCE447/40H Triode (G4070)	QCE448/40H Triode (G4071)	QCE449/40H Triode (G4072)	QCE450/40H Triode (G4073)	QCE451/40H Triode (G4074)	QCE452/40H Triode (G4075)	QCE453/40H Triode (G4076)	QCE454/40H Triode (G4077)	QCE455/40H Triode (G4078)	QCE456/40H Triode (G4079)	QCE457/40H Triode (G4080)	QCE458/40H Triode (G4081)	QCE459/40H Triode (G4082)	QCE460/40H Triode (G4083)	QCE461/40H Triode (G4084)	QCE462/40H Triode (G4085)	QCE463/40H Triode (G4086)	QCE464/40H Triode (G4087)	QCE465/40H Triode (G4088)	QCE466/40H Triode (G4089)	QCE467/40H Triode (G4090)	QCE468/40H Triode (G4091)	QCE469/40H Triode (G4092)	QCE470/40H Triode (G4093)	QCE471/40H Triode (G4094)	QCE472/40H Triode (G4095)	QCE473/40H Triode (G4096)	QCE474/40H Triode (G4097)	QCE475/40H Triode (G4098)	QCE476/40H Triode (G4099)	QCE477/40H Triode (G4100)	QCE478/40H Triode (G4101)	QCE479/40H Triode (G4102)	QCE480/40H Triode (G410
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rig should not be long now. More crystals have arrived from the States and the band is pretty well covered—40 anyway. The osc. goes well but there is an absence of drive, but fear not all will come good in the end. The club is going well and some prizes are being offered for the institution of novice licences and 5 w.p.m. as some of the boys seen stuck on that magical figure.

Well chaps, don't forget the meeting. It will be at the usual place, Tighes Hill University on the second Friday and for those without a calendar, that's the 8th. See you there.

—JAXX.

#### VEZATQ—BOYS' RADIO CLUB

The club hasn't been as active as we would like, and band conditions always seem a bit off when we are on. However a few ZLs and VK4s have exchanged reports on 30 mx.

We were pleased to meet up with 2ADZ, 2ZL, 2AQE, 2JR, 2ADZ, 2PF and 2NA lately. George 2ADZ is living about half a way away, but 2AMU and 2ALA are even closer.

Welcome back to Bob 2IN, after his trip through the Never Never. Bob supplied us with quantities of spare parts for our projects last year, but due to lack of time, construction work right now is nil.

Reg 2AJ has agreed to pay a visit after the holidays and demonstrate his KVM. We are borrowing a s.a.b. tx for a week or two at the end of the month, so if that doesn't relieve a burst of activity nothing will.—JAXX.

## VICTORIA

At the May monthly meeting we had an "Auction Night". Len Moncur was the very able auctioneer and quite a few items were exchanged. For one item someone started the bidding at "a dollar." JAEJ thought he'd be a smart also and raised it to "1 dollar 20." He laughed on the other side of his face when Len pointed down to him for \$1.10. Lots of fun was had and lots of gear was disposed of. Prior to the auction, Dick Clarke showed us samples of coaxial cables. These are used between Sydney and Melbourne and also for high-power v.h.f. applications. This was extremely interesting and got the meeting off to a good start. Thanks also to Len who did a fine job of extracting the "dollars," and dispensing the gear.

This month, on the 7th June, Wednesday night, the agenda item will be a lecture by

Lex 3AIL, on s.a.b., linear amplifiers, electronic T/R switches, and the last lecture he gave on this subject was outstanding, so be in it this month; 8 p.m. at the Royal Melbourne Institute of Technology, Radio Theatre, Wednesday, 7th June.

With regard to the library, we are missing the following books: Admiralty Handbook 1965, Vol. 1; Frequency Modulation, by Tibbs. Please return them at once, and it might be a good idea if ALL books out were returned so that our new library can sort out what's missing. Work is starting on repairs to the building. This will cost money, so please if you have not paid your subscription yet, let's have it.

#### R.D. CONTEST

Yes, about 10 weeks to this annual event. Let's make the upsurge of activity in VK3 over the past year or so a very evident fact by all h.s. operators getting on the air. As you know the "big" States have little chance of winning unless MOST of us submit a log. Please keep this contest in mind—August is the month and crank up your gear on 80, 40, 20 mx. The v.h.f. boys are up to all sorts of capers, here is an opportunity for those of us on the "big" bands to do something—it's about 80 per cent. of VK3 stations submit logs for the R.D. Contest.

You think this is impossible? Well are YOU going to be one of them?

#### PERSONAL BITS

Keith 3YQ is back from Japan; glad to have you back Keith. David 3ADW on holidays up in the Alps somewhere. Michael 3ZEO and 3JZCZ back from the S.W. Zone Convention, said they had a beast time. 3JAF, another television star, on the children's section on Channel 9 of a Wednesday night, giving Amateur Radio a bit more publicity, very good! Ken 3KR working some rare ones on 15 mx like PGB, 9U, 3ZEA, etc., in the afternoon. He has a triband quad and home brew rig running 60w. to 813 final. He tells me that Keith 3DQ is busy in relation to his rig also with a Geloso v.f.o. and 813 final and hopes to be active on all bands before very long. Other items in Benalla are Bill 3JP, Jack 3PF, George 3ADZ, but not very active.

#### SOUTH WESTERN ZONE

The Zone Convention was held in Warrambool on 29th October, 1965. The SWZ was represented by the local group put the zone

annual meeting during the Saturday afternoon and thus allowed the members to devote the entire evening to entertaining the visitors. It was certainly a struggle to make the earlier start, but the decision was that the effort was well worth while.

Our new President is Brian 3XN and he is supported by Jim 3ABT and Bob 3IC, the Vice-Presidents. The Secretary, also, remains with Don 3AKN, but some of the burden now rests on the capable shoulders of Eric 3ANG who has the long vacant post of Publicity Officer. Eric will be on duty three times a month from now and may be found on 144 Mc. almost any night. If you do have anything for the notice and contest clause, but haven't a chance to write, try the old firm on 80 mx and we should get it through for you. The field events were held at Jubilee Park outside the city. The city, on the day, had a wonderful time was bad by all, especially the harmonics. The 80 mx tx was hidden cunningly in an old lair in the abandoned school ground by Brian 3XN. The first two to arrive dead-headed. The organising committee had the forethought to read the speedometers of the participants. The 80 mx was declared by Michael 3ZEO the winner by one mile. The Geelong Club Perpetual Trophy, however, consoled the runner-up, John 3AGD. Michael also topped the 2 mx rig hidden by Bill 3ZFG. There were no starters for the 8 mx hidden tx. The 80 mx fox hunt was the last event and again the fox 3AKN, help assisted by 3ABT, fell to Michael 3ZEO. The all-band scramble went to 3AKN on a count back from Bill 3XE and John 3AGD. Bill, however, took the 3X prize for contact with 3Kerac with 3ABT on 80 mx during the scramble. The best mobile went to John 3AGD.

There were many other minor events and prizes. The stalwart of the nit wit network, Luke 3LL, drew the lucky programme and a special for the long distance he travelled. The 3000 yd. relay was won by 3ABT on 80 mx tx hunt and the ladies all for the best lunch event.

Our thanks go to all who did the events, to those who made the effort to give the prizes, especially to the VLs and XLs who made the lunch and afternoon tea, and to Eric 3ANG, Judy and Mrs. Oiddings who did the thousand mile relay. Thanks also to the crop up. Lastly a special thank you to our visitors, David 3AW, Roy 3ZFM, Reg 3ZEM, and the 3000 yd. relay team. Thanks also to Michael 3ZEO who promised to attend the zone meeting on behalf of the State Council and who arrived just too late with a most dubious excuse.

The W.I.C.E.N. operators met under the chairmanship of Jim 3ABT, the retiring coordinator and zone control station. Jim declined re-election to the position of coordinator and Pat 3ADN will be asked to do that job. The position of control station is to be rotated among the members. Sheds will remain at two per month. We hope to get on to some traffic handling very soon. Bill 3XE caused a stir by pressing for the use of a.c. and we (naturally) supported by Ken 3ABT and Bob 3IC. Result was, however, inconclusive.

One result of the Convention at this location was the need for a link with Eric 3ANG during the weeks previous when he was on a pleasure trip to meet him on his own ground, his beloved two metres. Quite a bit of activity there, too. David 3AGD and Gordon 3XV had mammoth signals. Gordon has over 100 stations confirmed and is waiting for his 100 Award Certificate. He is building gear for 288 Mc. now when he is not on the job of installing the new a.c. extension to the R/T link with VK7 land. Other mighty signals emanate from 3ZFG, 3ZEM, 3ZFM, Reg 3ZFG, and Geoff 3ZFX. Reg's rig is one of those poultry farm sort and we couldn't shame an u.s. un-scrappable it, but we will, never fear. Brian 3XN has been able to come back to this band with stabilised (7) gear and others nearly ready include John 3ARJ and Bill 3ZFG. Bill 3ZFG has drawn a 522 from the institute and will no doubt be a better starter.

We also have made a rather shaky start on the 30 mx band to meet Bill 3ZFG at home. Has intention of dropping the Z part with the help of Peter 3ZF, who can be heard using the key most nights for practice. John 3AMC and Eric 3XL are very active on 80 mx still.

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100 Kc. and 1000 Kc. Frequency Standard.

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## VK-ZL CONTEST

PHONE: 30th SEPT. and 1st OCT.

C.W.: 7th OCT. and 8th OCT.

1000 hrs. GMT to 1000 hrs GMT

The new relay from 3WI on 3.5 Mc. has been heard well over the cone area and at Jubilee Park during the Convention was only about 5 dB point lower than the 7 Mc. transmission, the moving loudspeaker copy from the mobile whips.

The only portable station noted during the month was Kavin 3AKR portables at Puckapunyal, using a Type 68 set and piece of wetting gear. And you know it is 3.0. Thank you all for help with the new one over the past year and please keep up the flow of gear for Eric 3ANQ who will now be doing the whole of the some publicity work. Its over to you, Eric, and cheerio all Best DX to you and may your's never grow less.

3B. 3AKN.

The Eastern Zone Convention, held at Yarram on April 8, resulted in a further burst of activity throughout the zone. Keep it up, slugs.

Some of the boys want real Indian style, Comanche and Cheyenne type to be exact. Really worked too, with owner operator Bill JAMH working some nice DX. A very hearty welcome to the zone Bill. Think a lock and chain on your gear is in order as all the boys really went for your outfit. While the boys were working (Ham Radio style), the XYLs and harmonics were gathering mushrooms. Look what you city boys missed by not at-

The Morwell High School Radio Club will soon be on the v.h.f. bands, as John Anderson has loaned his gear to the cause. Should any Ham, radio club, with particular emphasis on school radio clubs, like a contact with the Morwell High School, would they contact JBB or the Eastern Zone Secretary Later for the club on the air of a Thursday evening and chaps, the welcome door-mat is out to anybody who likes to call personally.

This Exhibition was held in the Wangaratta Drill Hall on Friday and Saturday, 27th and 28th April, and was organized by the Lions Club for charity.

Acoustics of the hall in general were lousy, and we had a lot of trouble with p.a. loudspeakers, projector loudspeakers going flat out, etc. The din was appalling. On top of physical noises, we had some electrical ones from sewing machines, drills, band saws, model trains, etc.

We met young Andrew Skewes, who is sitting for the ticket in October. Andrew is 18, still goes to school, but isn't lacking in ability on the microphone. Had to practically drag him away from it.

Another visitor to the Ham shack was Miss Janice Webb. Janice showed a keen interest in radio and very capably held a QSO with Dave IDE at Gundagai. Her presence was a great asset to the shack as was evidenced by a noticeable increase in interest both in the

★

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RADIO CLUB

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## QUEENSLAND

Also at the club meeting it was decided to make Evelyn Bahr a honorary member in recognition of the first lady to gain a licence in North Queensland (well done) Evie is the XYL of Charlie 4BQ, who can be heard on most bands.

Claude 4UX returned from a sojourn in the southern States, brought back wealth of literature for the boys. The local Z boys can be heard each evening working the JAs on 50 Mc. A V8 promises to open up on this band very shortly. No KH6 there at present. 73, 4RW.

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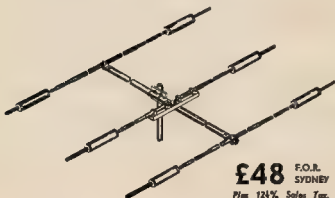
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cannot we renew our station licence as easily as others associated with t.v. or radio? Why the "rose petal pink" Max. I would prefer the delicate colours of the pansy!

Kew that Bill EKL has moved on came as a shock to those who knew him personally and also to those whom he had contacted on his beloved 14 Mc., both in and out of VK. Active as a DX'er as long as I can remember, from Port Lincoln, it is only recently that he came over to Adelaide to reside and pursue his "Duckbills" and look after his shift of QTH. To his relatives we extend our deepest sympathy and trust that time will ease the burden of sorrow.

Returning from my much publicised vacation, I found myself in the position of Mother Hubbard and her well known cupboard. My spies had transferred their allegiance to the "King of the Duckbills" and no doubt he was coming back. A call to Keith SWL, a cracking of the whip by this truculent gentleman, a coming to heel of all concerned, and all was well. Thanks, Keith.

Norm Colman, my genial co-auctioneer at the Divisional meeting nights, has been a very busy man over these last few weeks, and has been in the bottom of the "Soup and Fish" he is Master of all he surveys. Good luck to you Norm. If ever a man has to end in you, certainly you are it.

Normally, nothing would now remain but for me to close these notes and settle back in a state of somnolence—somnol—somnolles—well, anyway, settle back and go to sleep for another year. I cannot do so without thanking Compz EEP for so ably filling in for me last month, even if in doing so he tore my sacred main threads and no doubt set the standard for 1961-62. His remark that at this time of each year Council takes a square look at the previous year's notes, confirms what I have been saying for years. "Squares" is an apt description, and to those of us who move with the times and are "Heep" to modern thought, "Squares" was an uncomfortable description. Anyway, to cap it, after all I get eleven shots a year compared to his one, and if our barely concealed dislike of our individual members and visitors to widen the boundaries of the Divisional notes, then we are both doing a little towards the greatest hobby, bar none. Please stand by to resolve my "Squarish" Complaints. Complains: Steve Elton, Bleep-Bleep, and a couple of plop-plops—by the way, these days all Divisional notes seem to contain the call sign, so why not mine? SPS (PANSY) to you.

A while ago 6CS is going to a fringe area so will have his share of t.v.I. 6RW and 6BU often heard mobile on 40 mc. and of course 6XO on his visits to 6KJ's QTH. How is the fishing here? 6DL, a member of the bands is quite active with his 10w. and has many years of activity in front of him. One voice which will be missed in future is 6XO. Joe is on his way. Survi put hopes to be on the air soon with a VRC call sign—CO for preference. Good luck Joe, and hope to hear you sometime. 6XO, perhaps 40 mc. The Crazy Gang will miss him.

6JRM spent many hours on a mobile rig for his car, hoping to use it on the last long weekend. However, on his journey some insurance person, obviously not a Ham, crashed the back of his car and the result was no mobile activity. 6XO, much to be missed. On your mobile soon. 6 Allaba visited some of his 40 friends lately and was heard on his 100 portable. The other fairly hummed during his wanderings.

S.A.B. is becoming a popular topic of rag chews and may be necessary the way the bands are becoming crowded. 6JO and 6MM can be heard on the 100w. band trying to convert a.m. stalwarts. 6CL is interested in it or will be when he finishes digging up the worms. 73, 67H, per 6ZCZ.

## TASMANIA

April 1961 can be regarded as a high spot in VKT. First, we now have the v.h.f. notes from the v.h.f. club on the 50 Mc. band, original transmitted on the 50 Mc. band, then re-transmitted over TWI, and this advance can only be regarded as a step in the right direction, giving publicity to very important segment of Amateur activity within this Division. Secondly, Terry YCF has begun to re-transmit the TWI broadcast on 3672 kc. so we hope that the North and North-Western Zones will now be ensured of hearing the official broadcasts, no matter what the conditions. The world appreciates reports on the 80 mc transmissions.

On 18th April, a most enjoyable fox hunt on both the 8.5 and 144 Mc. bands was conducted, and we heard Chaz 7JW for the first time. The mobile 3.5 Mc. tx, and Reg ZTAO for operating the mobile 144 Mc. tx. Again, this exercise showed that the mobile stations in the 44 Mc. band is for functions such as this. After the conclusion of the fox hunt, we all proceeded to the home of Brian T2BE, where sausages and other meats were cooked over a beautiful fire, and the supper was completed by about the best coffee I have ever tasted. Thank you Brian for your co-operation.

The club room fund received £8/16/- from the function, but we were disappointed in the roll up, and we ask for better support at the functions to come. The club room fund also benefited by £24/9 from the raffie of a fowl at the May general meeting.

Bill TYF, his wife Francie, and daughter Helen returned home after their wonderful jaunt on to Bougainville and the Middle East. It is most interesting to talk to them about their holiday, and I personally found the stories about wrecked ships on the south-west coast of particular interest.

During April, Bert 8KU and Mrs. Clarke were amongst us. Bert tells me he is still a naturalised VKT despite his removal from the State some years ago. Just as he was, we were also within our jurisdiction for a few days and we hope you have returned home safely after a pleasant stay.

We regret the decision of Lon T1J to resign from the Federal Contest Committee. Lon has devoted himself to his work on this committee, and his ability to type has been invaluable. It has been a waste to prepare a report for publication of the results of the various contests over the past two years, but in addition to that, he has attended the committee meetings, and has contributed more than his share to the checking of logs in each contest as the Remembrance Day, involving a lot of working into midnight hours, times a week. Your efforts have been appreciated Lon.

Bedges, both full member and associate, are now held by this Division in good supply. The cost is five shillings per badge.

The last note is somewhat discordant; the annual dinner held at the club was a great success, except financially, due to the failure of ten acceptors not paying their subscription upon their failure to attend. Our Institute had to look for you, and accordingly had to pay for you. If you are at fault, please let us have your dinner subscription of a guinea per person and keep our finances satisfactory. 73, Jan, T2Z.

## NORTH WESTERN ZONE

Had the privilege of a quick visit to VK3 in April. 3ANG was my guide and we saw 3APL, 3DM, 3ARN and 3ARZ. Two things were most impressive, first the hospitality, and secondly, the very fine installations in evidence.

Once again an 80 mc tx hunt was held, but with very poor attendance. Something will have to be done to get the clubing plp. Sorry the fox hid himself very well. Later it developed into a mobile "catch me if you can" stunt which was thoroughly enjoyed by both participants.

The bimonthly social zone meeting for May developed into quite an auspicious occasion as we were the guests at the Burnie Fire Brigade. The night was very pleasant, and we were over to the Brigade of two-way radio gear, designed and constructed by members of this zone. Two vehicles roared away from the station and were controlled around down as a demonstration. Some very complimentary remarks came our way as a result of our effort and we came away too full for words—in more ways than one! We are grateful to Leon T1J for the magnificent job he did in the final setting up and testing of the gear.

It has become the accepted thing now to hold contests in miniature at the Ferry terminal in Devonport. This is done in company with 6RU and 6AX who had been "doing over" the Apple Isle. We look forward to meeting many more of the boys who anticipate visiting the mainland of Australia.

The 80 mc band has been quite good for several weeks and we have had some good 2L contacts. Looks as though our Kiwi friends will be in good luck as the year progresses.

Some interest is being taken in mobile gear around this way. It looks as though centre loaded whips will be the order of the day now. In fact, several of us are taking whips with whips and someone will discover a new formula if not careful.

A spirited contest between 7XL and TMS, both mobile, was heard the other night and a great deal of cat and mouse was done as progress as they chased each other's frequency. Appears that the synchronisation of the automatic tuning facilities synchronous to master and local oscillators (incorporating signal frequency requires slight adjustment David.

Heard TDA on the band the other night. Long time no hear David, so keep the beaters and turn and turn the horizontal and vertical deflection off. Saw Sam TBM receive his usual package of GSI cards via the Bureau the other night. He was usual, we gaped and whispered, "how does he do it?"

Will conclude with another TMX story. Tried out the 30 mc band recently. Nothing but loud hash. Not a signal of any sort. Examined rx from road and found the 400 foot test line had dropped off cubical quad. Problem of the month—how to solder a new feeder on the quad 40 foot. I got a good answer must be the individual work of the contestant.

Cheers chaps, TMX.

## HAMADS

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## WESTERN AUSTRALIA

The main event for this month was the Annual Meeting held in the Mend St. Hall, South Perth, which was attended by some fifty members including representatives of the S.W.I. Group and some visitors. Among them was 6XO who does not appear among us often enough. Business was rather prolonged and the meeting ended in the late hour. A motion before the meeting caused some spirited debating and was finally decided in the negative. The election of Council produced some surprises, as the new members are welcomed and we trust they will carry on the good work of past Councils.

Activity on the h.f. bands has been quite brisk most nights, now the bands are entering their winter stability and becoming very popular. Several new call signs are heard such as 6DL, 6DS, 6E, 6G, 6H, and others. We are getting quite a kennel of "Doggles" as well as the "Crazy Gang" 6CL, 6CW, etc.

The slow Morse sessions are well under way, thanks to the good efforts of 62H and 62Y, and their helpers. No doubt when the listeners obtain their full tickets, they will acknowledge the help they have received. The present ticket is due to John 62H, who has 6DR has done. Bill has not had his licence long, but puts out a very good signal on his home-brew set. He even built his own wave meter.

6KJ and 6WL manage some contacts between v. sessions but all the boys in the fringe areas are making good contacts. Some of the haps, VKZEL could give them some hint. Heard

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